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December 16, 2002, 17:22:32 ; Search time 31.5 Seconds (without alignments) 3375.248 Million cell updates/sec
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2916
1 MLGVLVLGALALAGLGFPAP......PSPTPGSTLTPPAVGLVHSG 516
GenCore version 5.1.3 Copyright (c) 1993 - 2002 Compugen Ltd
                                                                                                                                                                                                                                                                                                                                                                                         Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                      671580 seqs, 206047115 residues
                                                                               OM protein - protein search, using sw model
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Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                       Title:
Perfect score:
Sequence:
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1: sp_archea:*
2: sp_bacteria:*
3: sp_tungi:*
4: sp_tungi:*
5: sp_tunvertebrate:*
6: sp_mammal:*
7: sp_mhc:*
8: sp_organelle:*
9: sp_phage:*
10: sp_phage:*
11: sp_rodent:*
11: sp_vertebrate:*
13: sp_vertebrate:*
14: sp_unclassified:*
15: sp_arvirus:*
16: sp_arvirus:*
16: sp_arvirus:*
17: sp_archiap:* sp_vertebrate:*
sp_unclassified:* SPTREMBL_21:* •• Database

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

Minimum DB seq length: 0 Maximum DB seq length: 200000000

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

035370 rattus norv P97883 rattus norv O99cuo homo sapien 091zv1 mus musculu 091zv9 mus musculu 095r92 caenorhabdi 08281 rattus norv 09vs89 drosophila P8753 gallus gall p9vuh9 rattus norv 075095 homo sapien 096fp8 mus musculu 096ty8 mus musculu 096x48 mus musculu 09wuh8 rattus norv Q9uc32 homo sapien Description SUMMARIES Q9UC32 035370 P97883 Q94C00 Q912V1 Q912V2 Q912V3 Q912V3 Q912V3 Q9V389 Q9V38 Q9 44 111 113 114 117 117 117 117 DB Query Match Length 468 577 757 757 765 11394 11394 11394 11394 11394 11394 2805 2805 2805 2805 2805 991.0 6631.0 1129.9 1123.2 1122.8 1122.8 1122.8 1122.8 1122.8 1122.8 1122.8 1123.8 Score

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ALIGNMENTS

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PRELIMINARY; PRT; 468 AA.		2000 (TremBlrel, 13, Created) 2000 (TremBlrel, 13, Last semience undate)	rEMBLrel. 19,		\sim		Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo. NCBT TRAYTORGERE.		Ξ.	MEDLINE-93293792; PubMed-8390446;	Aoki	solation and characterization.";	J. Biochem. 113:433-440(1993).		IPR000152;	IPR000561;	IPR001881;	IPR001304;	o; IPR001491; Thrmbomoduln.	Pfam; PF00008; EGF; 4.	Pfam; PF00059; lectin_c; 1.	PRINTS; PR00907; THRMBOMODULN.		400181; EG	PS00010;		PS01186;	; PS01187; EGF_CA; 1.	binding; EGF	468 AA; 49444		5%; Pred. No. 7.2e-205;	Matches 466; Conservative 0; Mismatches 2; Indels 0; Gaps
RESULT 1 Q9UC32 ID Q9UC32	Q9UC32;	01-MAY-2000 01-MAY-2000	01-DEC-2001	THROMBC	Homo sa	Eukaryo	Mammali NCRT TA	[1]	SEQUENCE.	MEDLINE	Yamamot	"Urinar	J. Bioc	HSSP; F	InterPr	InterPro;	InterPro;	InterPro;	InterPro;	Pfam; P	Pfam; P	PRINTS;	SMART;	SMART;	PROSITE;	PROSITE;	PROSITE;	PROSITE;	Calcium	SEQUENCE	Query Match	est Local	atches 4
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                                                                                                                                                                                               GGVGRRRLWIGLQLPPGCGDPKRLGPLRGFQWVTGDNNTSYSRWARLDLNGAPLCGPLCV 138
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Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
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                                                                                 1 APAEPQPGGSQCVEHDCFALYPGPATFLNASQICDGLRGHLMTVRSSVAADVISLLLNGD
                                    APAEPQPGGSQCVEHDCFALYPGPATFLNASQICDGLRGHLMTVRSSVAADVISLLLNGD
                                                                                                                                                                                                                                                                                                                                                         139 AVSAAEATVPSEPIWEEQQCEVKADGFLCEFHFPATCRPLAVEPGAAAAVSITYGTPFA
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Submitted (SEP-1997) to the EMBL/GenBank/DDBJ databases.
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01-JAN-1998 (TrEMBLrel.
01-JUN-2001 (TrEMBLrel.
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Thrombomdulin (Fragment).

Rattus norvegicus (Rat).

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.

NCBI_TAXID=10116;
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PROSITE; PS01187; EGF_CA; 2. Calcium-binding; EGF-like domain; Glycoprotein; Hydroxylation; SEQUENCE 577 AA; 61844 MW; OBE764C8BF18555F CRC64;
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9
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STRAIN-SPRACHE-DBMLEY; TISSUB-BRAIN CAPILLARY;
WANG L., Tran N.D., Schreiber S.S., Zlokovic B.V.;
"Nucleotide sequence of rat thrombomodulin.";
Submitted (FEB-1997) to the EMBL/GenBank/DDBJ databases.
EMBL; U90111; AAB49723.1; -.
HSSP; P07204; 1FGD.
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                                                                                                                                            63.1%; Score 1840; DB 11; 63.8%; Pred. No. 1.8e-139;
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Interpro; IPR000152; BGF-like.
Interpro; IPR001881; EGF-Ca.
Interpro; IPR001491; Thrmbomoduln.
Pfam; PP00008; EGF; 5.
PRINTS; PR001090; THRMDOMODULN.
SMART; SM00179; EGF_CA; 2.
SMART; SM00001; EGF_Like; 3.
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Best Local Similarity
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PROSITE; PS00010; ASX_HYDROXYL; 2.
PROSITE; PS01186; EGF_2; 3.
PROSITE; PS01187; EGF_CA; 2.
Calcium-binding; EGF_1ike domain; Glycoprotein; Hydroxylation; Repeat.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          249 NGGCEHACNAIPGAPRCQCPAGAALQADGRSCTASATQSCNDLCEHFCVPNPDQPGSYSC 308
                                                                                                                                                                                                                                                                                                                                                                                                                        MCETGYRLAADQHRCEDVDDCILEPSPCPQRCVNTQGGFECHCYPNYDLVDGECVEPVDP 368
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        369 CFRANCEYQCQPLNQTSYLCVCAEGFAPIPHEPHRCQMFCNQTACPADCDPNTQASCECP 428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EGYILDDGFICTDIDECENGGFCSGVCHNLPGTFECICGPDSALVRHIGTDCDSGKV--D 486
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          131 PLCGPLCVAVSAAEATVPSEPIWEEQQCEVKADGFLCEFHFPATC-RPLAVEP-GAAAA 188
                                                                                                                                                                                                                                                        12 PLCGPLCVTVSTATEAAPGEPAWEEKPCENETKGFLCEFYFAAFCSRPLRVNTRDPEGAH 71
                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                189 VSITYGTPFAARGADFQALPVGSSAAVAPLGLQLMCTAPPGAVQGHWAREAPGAWDCSVE
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Catarrhini; Hominidae; Homo.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDLINE-20407466; Pubmed-10947988;
St Croix B., Rago C., Velculescu V., Traverso G., Romans K.E.
Montgomery E., Lal A., Riggins G.J., Lengauer C., Vogelstein
                                                                                                                                              47.9%; Score 1396.5; DB 11; Length ilarity 62.4%; Pred. No. 5.2e-104; Conservative 37; Mismatches 105; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-MAR-2001 (TIEMBLrel. 16, Created)
01-MAR-2001 (TIEMBLrel. 16, Last sequence update)
01-JUN-2002 (TIEMBLrel. 21, Last annotation update)
01-JUN-2002 (TIEMBLrel. 21, Last annotation update)
TUMOR endothelial marker 1 precursor (Endoslalin protein).
TEM1 OR ENDOSIALIN.
TEM1 OR ENDOSIALIN.
EURATYCIA: Metazoa: (Chordata; Craniata; Vertebrata; Eutele Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                       461 AA; 49499 MW; 45971BCE84688E67 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    "Genes expressed in human tumor endothelium."; Science 289:1197-1202(2000).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                757 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    487 GGDSGSGEPPPS-PTPGSTLTPPAVGLVHSG 516
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEDGGSGEHPSSNPTVVSSTVPPSARPMHSG 402
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InterPro; IPR000152; Asx_hydroxyl.
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                                                                                                                                                                    Similarity
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SEQUENCE FROM N.A.
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SEQUENCE FROM N.A.
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                                                                                                                                                                      Best Local Sim
Matches 244;
                                                                                    NON_TER
SEQUENCE
                                                                                                                                                Query Match
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Q9HCU0
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292 CEHFCVPNPDQPGSYSCMCETGYRLAADQ-HRCEDVDDCILEPSPCPQRCVNTQGGFECH 350
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SRWARLDLNGAPLCGPLCVAVSAAEATVPSEPIWEEQQCEVKADGFLCEFHFPATCRPLA 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              411 TACPADCDP----NTQASCECPEGYILDDGFICTDIDE----CENGGFCSGVCHNLPGT-- 461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       237 REAP---GAWDCSVENGGCEHAC-NAIPGAPRCQCPAGAALQADGRSCTASATQS-CNDL 291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ----CSPAGAMGAQASQDLGD-ELLDDGEDEEDEDEAWKAFNGGWT----EMPGILW 397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels 115; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2 LLRLLLAWAAAGPTLGQDPWAAEPR --- AACGPSSCYALFPRRRTFLEAWRACRELGGDL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MTVRSSVAADVISLLLNGDGGVGRRRLWIGLQLPPGCGDPKRLGPLRGFQWVTGDNNTSY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mus musculus (Mouse).
Sukaryota: Metazoa; Chordata; Craniata; Vertebrata; Euteleostoml;
Mammalia: Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 MLGVLVLGALALAGLG-FPAPAEPQPGGSQCVEHDCFALYPGPATFLNASQICDGLRGHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     180 VEPGAAAAVSITYGTPFAARGADFQALPVGSSAAV---APLGLQLMCTAPPGAVQGHWA
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                                                                                                                                                                                                                                                                                                                                                                                                                                         DB 4; Length 757;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FECICGPDSALVRHIGTDCDSGKVDGGDSGSGEPPPSPTPGSTLTPP 508
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEPTOPPDFALAYRPSFPED ------REPOIPYPEPTWPPP 432
                                                                                                                                                                                                                                                                                                                                                               TUMOR ENDOTHELIAL MARKER 1. C96363EA1FD8FFA0 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (TrEMBLrel. 19, Last sequence update) (TrEMBLrel. 21, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match 19.9%; Score 580.5; DB 4;
Best Local Similarity 33.4%; Pred. No. 2.5e-38;
Matches 176; Conservative 44; Mismatches 192;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Æ
                                                                                                                                                                                                           UNKNOWN_1
                                                                                                                                                                                                                                                                                                                                          POTENTIAL.
InterPro; IPR000561; EGF-like.
InterPro; IPR001881; EGF_Ca.
InterPro; IPR001304; Lectin_C.
Pfam; PF00008; EGF; 2.
Pfam; PF00059; lectin_c; 1.
SMART; SM00034; CLECT; 1.
SMART; SM00181; EGF; 3.
SMART; SM00179; EGF_CA; 2.
PROSITE; PS00101, ASX_HYDROXYL; UNKNOWIPROSITE; PS001186; EGF_CA; 2.
PROSITE; PS01186; EGF_CA; 1.
PROSITE; PS01186; EGF_CA; UNKNOWN_1.
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18 757 TU
757 AA; 80858 MW;
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SEQUENCE FROM N.A.
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01-DEC-2001 (
01-JUN-2002 (
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                                                                                                                                                                                                                                                                                                             Signal.
SIGNAL
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Q912V1;
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MEDLINE=21443268; PubMed=11559528;
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ID Q9TVQ2
                                                                                                                                                                                      Vivo.";
                                                                                                                                                                                                                                                                                                                                                                                                                                CHAIN
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                     Opavsky R., Haviernik P., Jurkovicova D., Garin M.T., Copeland N.G., Gilbert D.J., Jenkins N.A., Bies J., Garfield S., Pastorekova S., Oue A., Wolff L.;
"Molecular Characterization of the Mouse Teml/endosialin Gene Regulated by Cell Density in Vitro and Expressed in Normal Tissues in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  168 PLEVGQAGPAV---YTTPFNLVSSEFEWLPFGSVAAVQCQAGRGASLLCVKQPSGGVG-W 223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             224 SQTGPLCPGTGCGPDNGGCEHECVEEVDGAVSCRCSEGFRLAADGHSCEDPCAQAPCEQQ 283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    292 CEHECVPNPDQPGSYSCMCETGYRLAADQ-HRCEDVDDCILEPSPCPQRCVNTQGGFECH 350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61 TVRSSVAADVISLLLNGDGGVGRRR--LWIGLQLPPGCGDPKRLGPLRGFQWVTGDNNTS 118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    119 YSRWARLDLNGAPLCGPLCVAVSAAEATVPSEPIWEEQQCEVKADGFLCEFHFPATCRPL 178
                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                1 MLGVLVLGALALAGLGFPAPAEPQPGGSQCVEHDCFALYPGPATFLNASQICDGLRGHLM 60
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     179 AVEPGAAAAAVSITYGTPFAARGADFQALPVGSSAAV---APLGLQLMCTAPPGAVQGHW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      236 AREAP--GAWDCSVENGGCEHAC-NAIPGAPRCOCPAGAALQADGRSCTASATQS-CNDL
                                                                                                                                                                                                                                                                                                                                         36;
                                                                                                                                                                                                                                                                                                                  Length 765;
                                                                                                                                                                                                                                                                                                              19.7%; Score 575; DB 11; Length 76
38.3%; Pred. No. 7e-38;
Live 41; Mismatches 155; Indels
                                                                                                                                                                                                                                                                                        07B3225E5DD13A03 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-DEC-2001 (TrEMBLrel. 19, Created)
01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
Tumor endothelial marker 1 precursor (Endosialin).
                                                                                            EMBL, AF388572; AAK84664.1; -.

EMBL, AF388572; AAK84664.1; -.

MGD; MG1:1917695; Tem1.

InterPro; IPR0001512; Asx.hydroxyl.

InterPro; IPR000152; Asx.hydroxyl.

InterPro; IPR001801; EGF-11ke.

InterPro; IPR001801; EGF-0.

InterPro; IPR001304; Lectin_C.

InterPro; IPR001304; Lectin_C.

InterPro; IPR000136; Sushi_SCR_CCP.

Pfam; PF00008; EGF; 2.

Pfam; PF00008; Sushi, 1.

PROSITE; PS00010; ASX_HYDROXYL; UNKNOWN_I.

PROSITE; PS01186; EGF_2; UNKNOWN_I.

PROSITE; PS01186; EGF_2; UNKNOWN_I.

PROSITE; PS01187; EGF_2; UNKNOWN_I.

PROSITE; PS01187; EGF_CA; UNKNOWN_I.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              765 AA.
 STRAIN-SWISS WEBSTER; TISSUE-THYMUS;
MEDLINE-21486432; PubMed-11489895;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRT;
                                                                                                                                                                                                                                                                                                                                            Matches 144; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        351 CYPNYDL-VDGECVEP 365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CSEGHELEADGISCSP 352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                Best Local Similarity
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                                                                                                                                                                                                                                                                                                                   Query Match
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                                                                                        Vivo."
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61 TVRSSVAADVISLLLNGDGGVGRRR--LWIGLQLPPGCGDPKRLGPLRGFQWVTGDNNTS 118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 119 YSRWARLDINGAPLCGPLCVAVSAABATVPSEPIWEEQQCEVKADGFLCEFHFPATCRPL 178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             179 AVEPGAAAAAVSITYGTPFAARGADFQALPVGSSAAV---APLGLQLMCTAPPGAVQGHW 235
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  236 AREAP--GAWDCSVENGGCEHAC-NAIPGAPRCQCPAGAALQADGRSCTASATQS-CNDL 291
                                                                                                                                                                                                                                                                                                                                   in
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STRAIN-12956/SVEWTAC; TISSUE-SPLEEN;
MEDLINE-21486432; PubMed-11489895;
Opavsky R., Haviernik P., Jurkovicova D., Garin M.T., Copeland N.G., Gilbert D.J., Jenkins N.A., Bies J., Garfield S., Pastorekova S., Oue A., Wolff L.;
"Molet L., "Molff L.,"
"Moletular Characterization of the Mouse Teml/endosialin Gene Regulated by Cell Density in Vitro and Expressed in Normal Tissues in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                224 SQTGPLCPGTCCGPDNGGCEHECVEEVDGAVSCRCSEGFRLAADGHSCEDPCAQAPCEQQ
Carson-Walter E.B., Watkins D.N., Nanda A., Vogelstein B.,
Kinzler K.W., St Croix B.;
"Cell surface tumor endothelial markers are conserved in mice and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                36;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              19.7%; Score 575; DB 11; Length 765; 38.3%; Pred. No. 7e-38;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative 41; Mismatches 155; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TUMOR ENDOTHELIAL MARKER 1. 572A06CC15BC8CD8 CRC64;
                                                                                                                                                                                                                                                                                                                                                                             EMBL, AF378758; AAL11995.1; EMBL, AF378758; AAL11995.1; -
EMBL, AF388758; AAL11995.1; -
EMBL, AF388753; AAR84655.1; -
MGD, MGI:1917695; Teml.
InterPro; IPR000152; Asx_hydroxyl.
InterPro; IPR001681; EGF-like.
InterPro; IPR001801; EGFLG.
InterPro; IPR001304; Lectin_C.
InterPro; IPR001304; Lectin_C.
Pfam; PF00008; EGF; 2.
Pfam; PF00008; EGF; 2.
Pfam; PF00084; Sushi, 1.
PROSITE; PS00010; ASX_HYDROXIL; UNKNOWN_1.
PROSITE; PS01186; EGF_2; UNKNOWN_1.
PROSITE; PS01186; EGF_2; UNKNOWN_1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRT; 1664 AA.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           17 PO'
765 TUI
81813 MW;
                                                                                                          Cancer Res. 61:6649-6655(2001).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRELIMINARY;
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| CSEGHELEADGISCSP
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18 7
765 AA;
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Best Local Similarity
                                                                                                                                                            SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches 144;
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HOSTIC PROUGES, ASK_MYDTOXYI.
InterPro; IPR0001561; EGF-11ke.
InterPro; IPR001881; EGF_Ca.
InterPro; IPR001881; EGF_Ca.
InterPro; IPR001881; EGF_Ca.
SMART; SM000179; EGF_CA; 4.
SMART; SM00017; EGF_IIke; 19.
PROSITE; PS00010; ASK_HYDROXXL; 5.
PROSITE; PS001010; ASK_HYDROXXL; 5.
PROSITE; PS01186; EGF_2; 23.
PROSITE; PS01187; EGF_1; UNKNOWN_23.
PROSITE; PS01187; EGF_11ke domain; Glycoprotein; Hydroxylation; Repeat.
SEQUENCE 1574 AA; 165445 MW; 2B48533D8F77F6E7 CRC64;
-----CETGYRLAADQHRCEDVDDCILEPSPCPQRCVNTQGGFECHCYPNYDL-VD 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEGF6.
Rattus norvegicus (Rat).
Eukaryota: Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
NCBI_TaxID=10116;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              [1] SEQUENCE FROM N.A.
SEQUENCE FROM N.A.
STAIN-SPRAGUE-DAWLEY; TISSUE-BRAIN;
STRAIN-SPRAGUE-DAWLEY; TISSUE-BRAIN;
STRAIN-SPAGUE-DAWLEY; TISSUE-BRAIN;
MEDLINE-98360089; PubMed-9693030;
Nakayama M., Nakajima D., Nagase T., Nomura N., Seki N., Ohara O.;
"Identification of high-molecular-weight proteins with multiple EGF-
ilke motifs by motif-trap screening.";
Genomics 51:27-34(1998).
EMBL; AB011532; BAA32462.1; -.
HSSP; PO0736; JAPQ.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           224 CTAPPG-AVQGHWAREAPGAWDCSVENGGCEHACNAIPGAPRCQCPAGAALQADGRSCTA 282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            283 SATQSC---NDLCEHFCVP----- 309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               G-EC----VEPVDPCFRAN--CEYQCQPLNQTSYLCVCAEGFAPIPHEPHRCQMFC---- 408
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         205 -AISSCTLGNGGCQHQCVQLIVTQHRCQCRPQYQLQEDGRRCVRRSPCAEGNGGCMHICQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ---NQTACPADCDPNTQA--SCECPEGYILD-DGFICTDIDECENG-GFCSGVCHNLPGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   378 DCANSPCCQQAC-ANTPGGYECSCFAGYRLNTDGCGCEDVDECASGHGGCEHHCSNLAGS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     72;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 1574;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             14.2%; Score 414; DB 11; Length 15
34.1%; Pred. No. 1.3e-24;
Live 28; Mismatches 101; Indels
                                                                                                                                                                                                                                                                                                                             Created)
Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                           (TrEMBLrel. 08, C
(TrEMBLrel. 08, I
(TrEMBLrel. 19, I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Best Local Similarity 34.1%
Matches 104; Conservative
                                                                                                                                                                                                                                                                               PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Similarity
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FQCFC 441
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                                                                                                                                                   443 SCEP 446
                                                                                                   SGEP 495
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01-NOV-1998 (
01-DEC-2001 (
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                                                                                                   492
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RA Alnscough R.;
Submitted (MAY-1999) to the EMBL/GenBank/DDBJ databases.

EMBL; ALI17206; CAB60454.1;
SEMBL; ALI17206; CAB60454.1;
SEMBL; ALI17206; CAB57911.1;
SEMBL; SEMBL; SEGRE, S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             19;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       119 YSRWARLDLNGAPLCGPLCVAVSAAE-----ATVPSEPIWEEQQCE--VKADGFLCEF 169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             264
                                                                                                                                         Caenorhabditis elegans.
Eukaryota, Metazoa; Nematoda; Chromadorea; Rhabditida; Rhabditoidea;
Rhabditidae; Peloderinae; Caenorhabditis.
NCBI_TaxID=6239;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  116 D-ANEC---MANNGCEHECVN-TIGTYY-------CRCWPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  230 AVQGHWAREAPGAWDCSVENGGCEHACNAIPGAPRCQCPAGAALQADGRSCTA-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 206 ILIKKUTSCSTDNGGCEHEC-ENDSNGEFYRCRCRVGFKLSENKRSCQPVDPCFDNKGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   337 PQRCVNTQGGFECHCYPNYDL-VDGECVEPVDPCFRAN-CEYQCQPLNQTSYLCVCAEGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 170 HFPATCRPLAVEPGAAAAAVSITYGTPFAARGADFQALPVGSSAAVAPLGLQLMCTAPPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  283 ---SATQSC---NDLCEHFCVPNPDQPGSYSCMCETGYRLAADQHRCEDVDDCILEPSPC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 5; Length 1664;
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                                                                                                                                                                                                                                                                                       Mortimore B.J.;
Submitted (APR-1999) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                        "Genome sequence of the nematode C.elegans: A platform investigating biology."; Science 282:2012-2018(1998).
                 Created)
Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     14.8%; Score 433; DB 5 29.7%; Pred. No. 4e-26;
                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
MEDLINE-99069613; PubMed-9851916;
            01-MAY-2000 (TrEMBLrel. 13,
01-MAY-2000 (TrEMBLrel. 13,
101-DEC-2001 (TrEMBLrel. 19,
Y64G10A.7 protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Best_Local Similarity 29.79
Matches 126; Conservative
          01-MAY-2000 (TrEMBLrel.
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SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                           Adams W.D., Celniker S.E. Li P.W. Hoskins R.A., Gocayne J.D.,
RA Manatides P.G., Scherer S.E. Li P.W. Hoskins R.A., Galle R.F.,
George R.A., Lewis S.E., Holt R.A., Evans C.A., Gocayne J.D.,
Ramanatides P.G., Scherer S.E. Li P.W. Hoskins R.A., Galle R.F.,
George R.A., Lewis S.E., Holt R.A. Sahburner M., Henderson S.N.,
Sutton G.G., Wortman J.R., Yandell M.D., Zhang Q., Chen L.X.,
Ramanatides P.G., Scherer E.G., Helt G., Melson C.R., Miklos G.L.G.,
Ramana Brandon R.C., Rogars Y.-H.C., Blazel R.G., Champe M., Peleffers B.D.,
Ramana Brandon R.C., Rogars R., G., Champe M., Peleffers B.D.,
Ramana Ballew R.M., Dayle C., Baxendale J., Barkstarcyll L., Beasley E.M.,
Ballew R.M., Cawley B. Bouck J., Brokkstein P., Brottlar P.,
Ramana D.A., Burden M.R., Bouck J., Brokkstein P., Brottlar I.,
Ramana D.A., Bouch M.R., Bouck J., Brokkstein P., Brottlar I.,
Ruttis K.C., Busam D.A., Bultler H., Cadieu E., Center A., Chandra I.,
Ramana D.B., Botchan M.R., Bouck J., Brokkstein P., Brottlar S.M.,
Ramana D.B., Delcher D. Dugan-Rocha S., Dunkov B.C., Dunn P.,
Ramana D.B., Boures M., Dugan-Rocha S., Dunkov B.C., Dunn P.,
Rodare C., Gabrielian A.E., Garg N.S., Gelbart W.M., Glasser K.,
R. Goder K., Gong F.C., Krapt G., Kravitz S., Kulp D., Lai Z.,
R. Harris N.L., Harvey D., Helman T.J., Well M.-H., Deewan C.,
R. Harris N.L., Harvey D., Helman T.J., Well M.-H., Deewan C.,
R. Mattei B.L., Kodira C.D., Kraft C., Kravitz S., Kulp D., Lai Z.,
R. Lasko P., Lei Y., Levitsky A.A., Li J., Li Z., Llang Y., Lin X.,
R. Mattei B.L., Molland T.J., Weller M.-H., Deewan C.,
R. Mattei B.L., Molland R.S., Mixon K., Nusskern D.R., Melson D.R., Malshian N., Murphy B., Murphy D.M., Mosherson D.R.,
R. Mattei B.L., Molland R.S., Pollard J., Purit V., Resee M.G.,
R. Reinert K., Remington K., Sauders R., Sun E.,
Syler E., Spradling A.C., Stapleton M., Strong R., Sun E.,
Syliss R., Tector C., Turner R., Venter E., Wang A.H., Wang X.,
R. Wang Z.-Y., Wassarman D.A., Weinstock G.M., Weissenbach J.,
R. Wang S.M., Woodege T., Wolley W., Sun B.,
R. Weilley R.N., Rub
                                                                                                                                                                     Eukaryota, Metazoa, Arthropoda, Tracheata, Hexapoda, Insecta,
Pterygota, Neoptera, Endopterygota, Diptera, Brachycera, Muscomorpha,
Ephydroidea, Drosophilidae, Drosophila.
                                                                                          Last sequence update)
Last annotation update)
                                             PRT; 1394 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     InterPro; IPR000152; Asx_hydroxyl.
InterPro; IPR000561; EGF_Ca.
InterPro; IPR001881; EGF_Ca.
InterPro; IPR001410; Hyalin.
InterPro; IPR001436; Sushi_SCR_CCP.
InterPro; IPR001431; Thrmbomoduln.
Pfam; PF00008; EGF; 11.
                                                                    01-MAY-2000 (TrEMBLrel. 13, Created) 01-MAY-2000 (TrEMBLrel. 13, Last sequ 01-UNH-2002 (TrEMBLrel. 21, Last annc CG7526 protein (Fragment).
                                                                                                                                                      Drosophila melanogaster (Fruit fly).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRINTS; PRO0907; THRNBOMDULN.
SMART; SN00032; CCP; 2.
SMART; SN00179; BGF_CA; 9.
SMART; SN00013; EGF_LA; 5.
PROSITE; PS00010; ASX_HYDROXYL; 8.
                                                                                                                                                                                                                                                                      STRAIN=BERKELEY;
MEDLINE-20196006; Pubmed-10731132;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FlyBase; FBgn0035798; CG7526
                                             PRELIMINARY;
                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
                                                                                                                                                                                                                       NCBI_TaxID=7227;
                                             09VS89
                                                             09VS89
              RESULT 9
                              68SA60
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And the property of the proper
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PROSITE; PS01186; EGF_2; 9.
PROSITE; PS01187; EGF_CA; 10.
Calcium-binding; EGF-like domain; Glycoprotein; Hydroxylation; Repeat.
NON_TER 1394 1394
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       262 APRCQCPAGAALQADGRSCTASATQSC---NDLCEHFCVPNPDQPGSYSCMCETGYRLAA 318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 319 DQHRCEDVDDCILEPSPCPQRCVNTQGGFECHCYPNYDLVDGE--CVEPVDPC---FRAN 373
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    426 -ECPEGYILDDGFICTDIDEC--ENGGFCSGVCHNLPGTFECICGP-----DSALVRHI 476
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                               224 CTAPPGAVQG------HWAREAPGAW------DCSVENGGCEHACNAIPG 261
                                                                                                                                                                                                                                                                         13.2%; Score 385; DB 5; Length 1394;
32.1%; Pred. No. 2.4e-22;
.ive 33; Mismatches 110; Indels. 66; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   623 GFQCACPLGYALSEDMRTC--QDIDECLDSNGQCSQLCL---NQPGGFACACETGFELTP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              374 CEYQCQPLNQT-SYLCVCAEGFAPIPHEPHRCQMFCNQTACPA--DCDPNTQASC----
                                                                                                                                                                                     CD29380E3162F68A CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Last sequence update)
Last annotation update)
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MEDLINE-20152896; Pubmed-10691037;
                                                                                                                                                                                 1394 AA; 152269 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (TrEMBLrel. 03, C
(TrEMBLrel. 03, I
(TrEMBLrel. 20, I
                                                                                                                                                                                                                                                                                                                        Local Similarity 32.1%
Les 99; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gallus gallus (Chicken).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Fibrillin-1 (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     477 GIDCDSGK 484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         845 - DECDQDK 851
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NCBI_TaxID=9031;
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                                                                                                                                                                                          SEQUENCE
                                                                                                                                                                                                                                                                                       Query Match
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us-09-509-994-1.rspt

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RTA Aduled 1:0.

RTA Aduled 1:0.

RTA Aduled 1:0.

RTA Morphogenesis of embryonic lung.";

Bov. 121:229-242(1999).

B. Dev. 121:229-242(1999).

B. Dev. 121:229-242(1999).

B. EMBL; AF15560; AAD34439.1; -.

BR HSSP; P35555; IEWN.

BR INCEPPO: IPR0010152; ASC_Hydroxyl.

BR INCEPPO: IPR0010152; ASC_Hydroxyl.

BR INCEPPO: IPR0011881; EGF_Ca.

BR INCEPPO: IPR0011881; EGF_Ca.

BR INCEPPO: IPR001212; Fibril-assoc.

BR INCEPPO: IPR001212; Fibril-assoc.

BR RIWES; PR00010; EGF_CA: 42.

BR RIWES; PR00010; EGF_CA: 42.

BR SMART; SM00109; EGF_CA: 42.

BR ROSITE; PS00010; ALDEHYDE_DEHYDR_CYS; UNKNOWN_1.

BR ROSITE; PS00010; ALDEHYDE_DEHYDR_CYS; UNKNOWN_1.

BR ROSITE; PS01186; EGF_1; UNKNOWN_2.

BR ROSITE; PS01186; EGF_1; UNKNOWN_2.

BR ROSITE; PS01186; EGF_2: 43.

BR ROSITE; PS01187; EGF_CA: 43.

BR ROSITE; PS01187; EGF_CA: 43.

BR ROSITE; PS01187; EGF_CA: 43.
                                                                           20;
                                                                                                                                                                   223 ECSIMNGGCENFCTGSEGSYECSCKQGFALMPDHRTCT-----DIDE--CEDNPNIC 272
                                                                                                                                                                                                                                                            -----DQPGSYSCMCETGYRLAADQHRCEDVDDCILEPSPC-PQRCVNTQGGFECHCYP 353
                                                                                                                                                                                                                                                                                                                                                                                              354 NYDLVDGE--CVEPVDPC--FRANCEYQCQPLN-QTSYLCVCAEGFA-----PIP 398
                                                                                                                                 244 DCSVENGGCEHACNAIPGAPRCQCPAGAALQADGRSCTASATQSCNDLCEHFCVPNP--- 300
                                                                                                                                                                                                                                                                                                  273 DGGQCTNIPGEYRCLCYDGFMASEDMKTCVDVNECDLHPNICLSGTCENTKGSFICHCDM 332
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ω.
                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
NCBI_TaxID=10116;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
MEDLINE-99350231; PubMed-10419698;
Yang Q., Ota K., Tian Y., Kumar A., Wada J., Kashihara N., Wallner
Kanwar Y.S.;
                                                                                                                                                                                                                                                                                                                                                                                                                                    HEPHRCQMFCNQTACPADCDPNTQAS--CECPEGYILDDGFICTDIDE-----CENG-
%; Score 375; DB 13; Length 708;
%; Pred. No. 7.1e-22;
26; Mismatches 108; Indels 106;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   474 RHIG------TDCDSGK-VDGGDSGSGEPPPSPTPGSTLTPPAVGLV 513
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    503 RSGGNCTDVNECADPITCISGICVNTAGSYICECPPD----FELNPIRVGCV 550
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 2906;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       12.8%; Score 374; DB 11; Length 29
32.9%; Pred. No. 4e-21;
.ive 24; Mismatches 92; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Last sequence update)
Last annotation update)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Created)
Ouery Match 12.9%;
Best Local Similarity 31.8%;
Matches 112; Conservative 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         01-NOV-1999 (TrEMBLrel. 12, 01-NOV-1999 (TrEMBLrel. 12, 01-MAR-2002 (TrEMBLrel. 20, Fibrillin-2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity 32.99
Matches 102; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Rattus norvegicus (Rat)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           о9мин9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    392
                                                                                                                                                                                                                                                                   301
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18;

Gaps

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15;
               -----PNPDQPGS-----YSCMCETGYR 315
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   238 EAPGAWDCSVENGGCEHACNAIPGAPRCQCPAGAALQADGRSCTASATQSC---NDLCEH 294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TISSUE-BRAIN;
MEDILINE-98360089; PubMed-9693030;
Nakayama M., Nakajima D., Nagase T., Nomura N., Seki N., Ohara O.;
Nidentification of high-molecular-weight proteins with multiple EGF-
like motifs by motif-trap screening.";
Genomics 51:27-34(1998).
BMBL; AB011539; BAA32467.2; -.
NON_TER
1 1 1
SEQUENCE 1246 AA: 130304 MW; BD8E70A0F6A2CB29 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                  354 NYDLVDGE--CVEPVDPC--FRANCEYQCQPLN-QTSYLCVCAEGFA-----PIP
                                                                                                                                                    HEPHRCOMFCNQTACPADCDPNTQAS -- CECPEGYILDDGFICTDIDE-----CENG-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    370 FRAN--CEYQCQPLNQTSY--LCVCAEGFAPIPHEPHRCQMFC-----NQTACPADCD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EANNGGCSHGC---SHTSAGPLCTCPRGY-----ELDTDQRTCIDVDDCADSPCCQQVCT
DCSVENGCCEHACNAIPGAPRCQCPAGAALQADGRSCTASATQSCNDLCEHFCVPNPD--
                                                 -----QPGSYSCMCETGYRLAADQHRCEDVDDCILEPSPCP-QRCVNTQGGFECHCYP
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Euteleostom1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         72;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ouery Match 12.7%; Score 369; DB 4; Length 1246; Best Local Similarity 32.6%; Pred. No. 4e-21; Matches 95; Conservative 27; Mismatches 97; Indels 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    419 PNTQA-SCECPEGYILD-DGFICTDIDECENG-GFCSGVCHNLPGTFECIC 466
                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Eutele
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                       Last sequence update)
Last annotation update)
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21,
21,
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                                                                                                                                                                                                                                                                                                                                                                        01-NOV-1998 (TrEMBLrel. 00
01-JUN-2002 (TrEMBLrel. 2
01-JUN-2002 (TrEMBLrel. 2
MEGFE (Fragment).
                                                                                                                                                                                                                                                                                                                                                 PRELIMINARY;
                                                                                                                                                                                                                                                                                RIGGHCIDID 1526
                                                                                                                                                                                                                                                        474 RHIG--TDCD 481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NCBI_TaxID-9606;
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                                                                                                                                                    399
                                                 302
                                                                                                                                                                             1406
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075095
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SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                             Fibrillin3.
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Q9CXD8
                                                                                                                                                                      RESULT 14
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BR HSSP; P35555; LAPU.

BRBL; AF007248; AAC62317.1; -.

BRBL; AF007248; AAC62317.1; -.

BRSC; P3555; LAPU.

BRICEPRO; IPR000152; ASX_hydroxyl.

InterPro; IPR000151; EGF-11ke.

BR InterPro; IPR001881; EGF-Ca.

BR Ffam; PF00008; EGF; 64.

BRART; SM00179; EGF-CA; 60.

BRART; SM00179; EGF-CA; 60.

BRART; SM0001; EGF-Ikke; 4.

BROSITE; PS001186; EGF-Z; 50.

BROSITE; PS01186; EGF-Z; 50.

BROSITE; PS01186; EGF-Z; 50.

BROSITE; PS01186; EGF-Z; 51.

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                                                                                                                                                                                                                                                                                                                                                                                                                                      STRAIN-B10.D2;
MEDLINE-98069008; PubMed-9405934;
Bona C.A., Murai C., Casares S., Kasturi K., Nishimura H., Honjo T.,
                                                                                                                                                                                                                                                                  Mus musculus (Mouse).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
NCBI_TaxID=10090;
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300 NNPGGYECGCYAGYRLSADGCGCEDVDECASSRGGCEHHCTNLAGSFQCSC 350
                                                                                                                                                                    Created)
Last sequence update)
Last annotation update)
                                                                                                                    3857 AA
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WEDLINB-21245130; PubMed=11347906;

WEDLINB-21245130;

WEDLINB-21245130;

WEDLINB-21245130;

WEDLINB-21245130;

WEDLINB-21245130;

WEDLINB-213450;

WEDLINB-2134
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| STWVRKGATGCSD-VDECEVGGHNCDSHASCLNIPGSFSCRCLPGWVGDGFECHDLDECI 1326
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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Last annotation update)
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                                                                                                             485 -VDGGDSGSGEPPPSPTPGSTLTPPAVGLV 513
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SEQUENCE FROM N. A.

STRAIN-C57-BLV.65; TSSUB-THYMUS;

RA Arakawa T., Hara A., Fukunishi Y., Konhino H., Adachi J., Fukuda S.,

RAMAHA-C57-BLNE-21085660; PubMed-11217851;

RAWAI J., Shinagawa A., Eikhunishi Y., Konho H., Adachi J., Fukuda S.,

RA Alzakawa T., Hara A., Fukunishi Y., Konho H., Adachi J., Fukuda S.,

RA Alzakawa T., Saluca H., Shourine M., Bantalov S., Casavant T.,

RA Alzakawa T., Saluchi K., Kiyosawa H., Kondo S., Yamanaka I.,

RA Alzakawa T., Saluchi K., Kiyosawa H., Kondo S., Yamanaka I.,

RA Alzakawa T., Saluchi K., Kiyosawa H., Kondo S., Yamanaka I.,

RA Alzakawa T., Saluchi K., Kada B., Kochiwa H.,

RA Alzakawa M., Matsuda H.A., Ashburne M., Batalov S., Casavant T.,

RA Lewis S., Matsuo Y., Nikaido I., Pesole G., Quackenbush J.,

RA Lewis S., Alubi F., Suzuki R., Tomita M., Gariboldi M.,

RA Saki K., Okido T., Furuno M., Aono H., Baldarelli R., Barsh G.,

Bata K., Okido T., Furuno M., Aono H., Baldarelli R., Barsh G.,

Bata K., Okido T., Furuno M., Aono H., Baldarelli R., Barsh G.,

Bata K., Okido T., Furuno M., Aono H., Baldarelli R., Barsh G.,

RA Brownstein M.J., Bult C., Fletcher C., Fujita M., Gariboldi M.,

Gustinction J., Holmann M., Hume D.A., Kamiya M., Lee N.H.,

RA Lyons P., Marchionni L., Mashima J., Mazzarelli J., Konhaberts P.,

Nordone P., Ring B., Ringardi M., Waitz C., Whittaker C., Wilming L.,

RA Lyons P., Marchionni L., Mashima J., Mazzarelli J., Kohtsuki S.,

RA Lyons P., Marchionni L., Hasegawa Y., Rawaji H., Kohtsuki S.,

Runctional annotation of a full-length mouse cDNA collection.";

REMBI, AKO18073; BAB31061.1; -.

REMBI, AKO18073; BAB31061.1; -.

REMBI, REMO18075; BAB31061.1; -.

REMBI, REMO18075; BAB31061.1; -.

REMBI, REMO18075; BAB31061.1; -.

REMBI, REMO18079; EGF_CA: 6.

SWART; SWO0181; EGF_CA: 6.

SWART; SWO0181; EGF_CA: 6.

REMBIR PROSITE; PS010187; EGF_LA: 4.

REGF-LIKe domain; Glycoprotein; Hydroxylation.

SBOUENCE 528 AA; 58217 MW; 36bE66699169328E CRC64;
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Butheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
NCBL_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         12.3%; Score 360; DB 11; Length 528; 24.6%; Pred. No. 8.2e-21; tive 57; Mismatches 151; Indels 170;
                                   01-JUN-2001 (TrEMBLrel. 17, Created)
01-JUN-2001 (TrEMBLrel. 17, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
6130401L20Rik protein.
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  PRT;
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Best Local Similarity 24.6%
Matches 123; Conservative
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382 NQTSYLCVCAEGFAPIPHEPHRCQMFCNQTACPADCDPNT-QASCECPEGYILD-DGFIC 439 210 FHCECDTGYRRHADERNCIKTDPCAGANGCAHLC---QTENGMARCACHAGYQLSEDKKA 266 CEDVDDCILEPSPCPQRCVNTQGGFECHCYPNYDL-VDGECVEPVDPCFRANCEYQCQPL 381 315 ----IVNICEK--------NNGGCSHHCEPAIGGAHCSCNHGHQLDTDGKTC 354 440 TDIDECENG-GFCSGVCHNLPGTFECICGPDSALVRHIGTDCDS---------483 -- GKVDGGDSGSGEPPPSPTP 501 414 FPGRL-----AQNPPQPFP 427 à g Qγ 셤 ò g ŏ

Search completed: December 16, 2002, 17:26:08 Job time: 40.5 secs

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; Search time 13.5 Seconds (without alignments) 1124.609 Million cell updates/sec
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Copyright (c) 1993 - 2002 Compugen Ltd.
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    protein search, using sw model

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Gapop 10.0 , Gapext 0.5
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2916
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Perfect score:
Sequence:
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seq length: 0 seq length: 200000000 Minimum DB Maximum DB

Total number of hits satisfying chosen parameters:

262574 seqs, 29422922 residues

Searched:

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

Database

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

-08-587-389-5

Sequence 7, Appli Sequence 5, Appli Sequence 9, Appli Sequence 2, Appli Sequence 1, Appli Sequence 1, Appli Sequence 3, Appli Sequence 3, Appli Sequence 4, Appli Patent No. 5177197 Sequence 1, Appli Sequence 18, Appli Sequence 18, Appli Sequence 1, Appli
US-08-312-870-7 US-08-312-870-5 US-08-313-564-1 US-08-313-564-1 US-08-71-305-2 US-08-71-305-2 US-08-897-44-39 US-08-867-39 US-08-867-39 US-08-867-39 US-08-87-1 US-08-87-1 US-08-87-1 US-08-87-1 US-08-880-2251-18 US-08-884-072-1 US-08-884-072-1 US-08-884-072-1 US-08-884-072-1
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275 215 1114 1115 1115 652 658 638 638 1964 1933 11394 443 443 448
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55.5 39.7.7 223.5 223.5 223.5 110.0 111.4 111.0 111.0 111.0 111.0 111.0 111.0 111.0 111.0 111.0 110.0 110.0 110.0
1617 1159 685 685 685 580 573 331.5 328.5 328.5 319.5 319.5 308
22 22 23 23 23 24 24 24 24 24 24 24 24 24 24 24 24 24

ALIGNMENTS

59 Applicati 74007 RMATION:	APPLICANT: Zushi, Mittenitaka No 12 7 3 APPLICANT: Gomi, Komakazu APPLICANT: Yamamoto, Shuii	Suzuki, Koji Matsuda, Akio	NVENTION:	; TITLE OF INVENTION: with Thrombin : NIMBER OF SECHENCES: 80	CORRESPONDENCE ADDRESS:	; ADDRESSEE: Birch, Stewart, Kolasch & Birch . STREET: 301 N Washington St	Falls Church		; COUNTRY: USA : ZIP: 22046-0747	R READABLE FORM	, MEDIUM TYPE: Floppy disk	COMPUTER: IBM PC compatible COMPUTER: PC-DOS/MS-DOS	SOFTWARE: Patentin Release #1.0, Version #1.25	; CURRENT APPLICATION DATA:	CLASSIFICATION: 530	PRIOR APPLICATION DATA:	e'n	_) NAME: Svensson, Leonard R.		H	; TELEPHONE: 703-241-1300	TELEFAX: 7/03-Z41-Z848	TELEX: 240343		; LENGTH: 575 amino acids	; TYPE: amino acid	끆	MOLECOLE TYPE: process	SOURCE:	; ORGANISM: Homo sapiens	; FEATURE:
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ATTORNEY/AGENT INFORMATION:
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                                                                                                                                                                                                                           61 IVRSSVAADVISLLENGDGGVGRRRIMIGLQLPPGCGDPKRLGPLRGFQWVTGDNNTSYS 120
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                                                                                                                                                                                                                                                                                                                                                                                                                                                     DQPGSYSCMCETGYRLAADQHRCEDVDDCILEPSPCPQRCVNTQGGFECHCYPNYDLVDG 360
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                                                                                       Length
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APPLICANT: Esmon, Charles T.
TITLE OF INVENTION: Method for Detecting Antibodies
TITLE OF INVENTION: Thrombomodulin in Patients
CORRESPONDENCE ADDRESS:
                              /label= protein
/note= "human thrombomodulin"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                       Score 2916; DB 1;
Pred. No. 1.2e-198;
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                                                                                                                       0; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: US/08/312,870 FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 1, Application US/08312870 Patent No. 5639625 GENERAL INFORMATION:
                                                                                        100.0%;
100.0%;
                             /label=
                                                                                                                       Matches 516; Conservative
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             LOCATION: 1..575
OTHER INFORMATION:
OTHER INFORMATION:
   NAME/KEY: Protein
                                                                                          Query Match
Best Local Similarity
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                                                          US-08-261-206A-59
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-08-312-870-1
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STATE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE OF INVENTION: SUPERIOR THROMBOMODULIN ANALOGS
                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 2912; DB 1;
Pred. No. 2.3e-198;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      516
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                                            OMRF B35150
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NAME: Hansen, Eugenia S.
REGISTRATION NUMBER: 31,966
REFERENCE/DOCKET NUMBER: OMRF
TELECOMMUNICATION INFORMATION:
TELEPHONE: 214-939-4500
TELEFAX: 214-939-4600
                                                                                                                                 INFORMATION FOR SEQ ID NO: 1:
                                                                                                                                                                                                                                                                                                                                                                                                                                           99.98;
99.88;
                                                                                                                                                        SEQUENCE CHARACTERISTICS:
LENGTH: 575 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                        MOLECULE TYPE: protein
FRAGMENT TYPE: N-terminal
ORIGINAL SOURCE:
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CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                             ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                        Protein
19..575
                                                                                                                                                                                                                           linear
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Best Local Similarity
Matches 515; Conserv
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                                                                                                                                                                                                                                                                                                                                                      NAME/KEY:
; LOCATION:
US-08-312-870-1
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COMPUTER: 1BM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
                                                            CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/170,290A
FILING DATE: 28-DEC-1993
CLASSIFICATION DATA:
APPLICATION DATA:
FILING DATE: 01-JUL-1992
CLASSIFICATION DATA:
APPLICATION DATA:
APPLICATION DATA:
APPLICATION DATA:
APPLICATION NUMBER: US/724,237
FILING DATE: 01-JUL-1991
CLASSIFICATION: 435
APPLICATION NUMBER: 29,541
FILING DATE: 01-JUL-1991
CLASSIFICATION: 435
ATTORNEY-AGENT INFORMATION:
NAME: Heslin, James M.
REGISTRATION NUMBER: 29,541
REFERENCE/DOCKET NUMBER: 11972-58-1
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415-326-2402
TELECOMMUNICATION INFORMATION:
SEQUENCE CHARACTERISTICS:
LENGTH: 575 anino acids
TYPE: amino acids
TYPE: Amino acids
TYPE: Amino acids
Floppy disk
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Best Local Similarity 99.6
Matches 514; Conservative
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MEDIUM TYPE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DQPGSYSCMCETGYRLAADQHRCEDVDDCILEPSPCPQRCVNTQGGFECHCYPNYDLVDG 360
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                                                                                                                                                                                                                                                                  Gaps
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US-08-170-290A-54

5 Sequence 54, Application US/08170290A

5 Patent No. 5702931

5 GENERAL INFORMATION:

APPLICANT: Andrews, William H.

APPLICANT: Zielander, Laura R.

TITLE OF INVENTION: No. 570291el Mutagenesis Methods and

TITLE OF INVENTION: Compositions

NUMBER OF SEQUENCES: 63

CORRESPONDENCE ADDRESS:

ADDRESSEE: James M. Healin

STREET: 379 Lytton Ave.

STREET: Alo Alto

STREET: California
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                                                                                                                                                                                                                           Length 575
                                                                                                                                                                                                                                                                1; Indels
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FILING DATE: 15-AGG-1990
APPLICATION NUMBER: 506,325
FILING DATE: 09-APR-1990
APPLICATION NUMBER: 406,941
FILING DATE: 13-SEP-1989
APPLICATION NUMBER: 345,374
FILING DATE: 28-APR-1989
SEQ ID NO:6:
PRIOR APPLICATION DATA:
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                                                                                                                               61 TVRSSVAADVISLLLNGDGGVGRRRLWIGLQLPPGCGDPKRLGPLRGFQWVTGDNNTSYS 120
                                   Gaps
                                                                                   1 MLGVLVLGALALAGLGFPAPAEPQPGGSQCVEHDCFALYPGPATFLNASQICDGLRGHLM 60
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Length 575;
99.6%; Score 2904; DB 1;
99.6%; Pred. No. 8.4e-198;
ative 0; Mismatches 2;
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S RESULT

COMPUTER READABLE FORM:

COUNTRY: USA ZIP: 94301

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Query Match
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                                              TITLE OF INVENTION: OXIDATION RESISTANT THROMBOMODULIN ANALOGS
                                                                                                                                                              Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-08-733-564-2
; Sequence 2, Application US/08733564
; Patent No. 5916874
; GENERAL INFORMATION:
   APPLICANT: FUJIWARA, Kenji
   APPLICANT: MOCHIDA, Satoshi
   TITLE OF INFORMATION: METHOD FOR TREATING LIVER INJURY
   NUMBER OF SEQUENCES: 2
   CORRESPONDENCE ADDRESS:
   ADDRESSE: Birch, Stewart, Kolasch & Birch, LLP
   STREET: P.O. Box 747

CITY: Falls Church
                                                                                                                                                                                       Indels
                       APPLICANT: GLASER, CHARLES B.; MORSER, MICHAEL J.; LIGHT
                                                                                                                                                               DB 6;
                                                                                                                                                              Score 2842.5; DB 6
Pred. No. 1.8e-193;
0; Mismatches 5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      481 DSGKVDGGDSGSGEPPPSPTPGSTLTPPAVGLVHSG 516
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NUMBER OF SEQUENCES: 48
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/506,325
FILING DATE: 09-APR-1990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   E: Floppy disk
IBM PC compatible
                                                                                                                                                               97.5%;
98.4%;
                                                                                                                                                                            Best Local Similarity 98.4
Matches 508; Conservative
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           ;Patent No. 5256770
                                                                                                                           LENGTH: 572
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                                                                                                                                                                 Query Match
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Patent No. 5639625
GENERAL INFORMATION:
APPLICANT: Esmon, Charles T.
TITLE OF INVENTION: Method for Detecting Antibodies to TITLE OF INVENTION: Thrombomodulin in Patients NUMBER OF SEQUENCES: 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   97.1%; Score 2830; DB 2; 3100.0%; Pred. No. 1.2e-192; iive 0; Mismatches 0;
                                           FILING DATE: 18 OCTOBER 1996
CLASSIFICATION: 514
ATTORNEY/AGENT INFORMATION:
NAME: SVENSSON, LEGDARG R.
REGISTRATION NUMBER: 30,330
REFERENCE/DOCKET NUMBER: 0216-0362P
TELECOMMUNICATION INFORMATION:
TELEPHONE: (703) 205-8050
TELEFAR: 248345
OPERATING SYSTEM: PC-DOS/MS-DOS
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/733,564
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                                                                                                                                                                                                                                                                                                                         498 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Best Local Similarity 100.
Matches 498; Conservative
                                                                                                                                                                                                                                    TELEFAX: (703) 205-805
TELEX: 240345
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 498 amino acid
                                                                                                                                                                                                                                                                                                                                                                 STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                    TOPOLOGY: linear MOLECULE TYPE: Protein
                                                                                                                                                                                                                                                                                                                                             amino acid
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us-09-509-994-1.rai

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                                                                                                                                              SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/312,870
                                                                                                                                                                                                                                                                                                                                                                                                                    Score 2820; DB 1;
Pred. No. 6.2e-192;
0; Mismatches 1;
             E: Richards, Medlock & Andrews
1201 Elm Street, Suite 4500
                                                                COUNTRY: US
ZIP: 75270-2197
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                          FILING LOATE:
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Hansen, Eugenia S.
REGISTRATION NUMBER: 31,966
REFERENCE/DOCKET NUMBER: 0MF
TELECOMUNICATION INFORMATION:
TELEPHONE: 214-939-4500
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
LENGTH: 497 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                   96.7%;
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Matches 496; Conservative
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CORRESPONDENCE ADDRESS:
                                        Dallas
                                                       Texas
                                                                                                                                                                                        FILING DATE:
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RESULT 8

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61 IVRSSVAADVISLLLNGDGGVGRRRLWIGLQLPPGCGDPKRLGPLRGFQWVTGDNNTSYS 120
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                                                             APPLICANT: Doi, Takeshi
APPLICANT: Iwasaki, Akio
APPLICANT: Saino, Yushi
APPLICANT: Kimura, Shigeru
APPLICANT: Ohkuchi, Masao
TITLE OF INVENTION: Thrombin-Binding Substance and Process
NUMBER OF SEQUENCES: 18
                                                                                                                                                                                                                                              NOMBER OF SEQUENCES: 10
NOMBER OF SEQUENCES: 10
NORMESPONDENCES: 10
NORMESPONDENCE ADDRESSE: P.C.
STREET: 1755 Jefferson Davis Highway, Fourth Floor
CITY: Arlington
STREET: Virginia
21P: 22202
STATE: Virginia
21P: 22202
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
COMPUTER: IBM PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
APPLICATION NUMBER: US/08/014,723
FILING DATE: 19930208
CLASSIFICATION: 435
ATTONENT-AGENT INFORMATION:
NAME: Oblon, No. 5273962man F.
REGISTRATION NUMBER: 24,618
REGISTRATION NUMBER: 24,618
REFERENCE/DOCKET NUMBER: 80-071-0 CIP
TELEFONMUNICATION INFORMATION:
TELEFHONE: (703)413-3200
TELEFHONE: (703)413-220
                                                                                                                                                                                                                                                                             & NEUSTADT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
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Pred. No. 2.1e-188;
0; Mismatches 3;
Sequence 14, Application US/08014723
Patent No. 5273962
GENERAL INFORMATION:
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Best Local Similarity
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GENERAL INFORMATION:
APPLICANT: Doi, Takeshi
APPLICANT: Iwasaki, Akio
APPLICANT: Saino, Yushi
APPLICANT: Kimura, Shigeru
APPLICANT: Ohkuchi, Masao
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          94.9%;
99.2%;
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TELEFAX: (703)413-2220
TELEX: 248855 OPAT UR
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity 99.2
Matches 490; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MOLECULE TYPE: protein
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Length 494;
                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Saino, Yushi
APPLICANT: Kimura, Shigeru
APPLICANT: Kimura, Shigeru
APPLICANT: Ohkuchi, Masso
TITLE OF INVENTION: Thrombin-Binding Substance and Process
TITLE OF INVENTION: For Preparing the Same
NUMBER OF SEQUENCES: 18
CORRESPONDENCE : 18
ADDRESSE: OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT,
                                                                                                                                                                                                                                                                                                                                                                                                                                                       STREE: P.C. SPIVAK, MCCLELLAND, MAIER & NEUS STREET: 1755 Jefferson Davis Highway, Fourth Floor STATE: Virginia ZIP: 22202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SOFTWARE: Patentin Release #1.0, Version #1.25 CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/110,011A
FILING DATE: 23-AUG-1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     95.0%; Score 2770; DB 1; 99.4%; Pred. No. 2.1e-188;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATTORNEY AGENT INFORMATION:
NAME: Oblon, No. 5354664man F.
REGISTRATION NUMBER: 24,618
REFERENCE/DOCKET NUMBER: 80-073-0 DIV
TELECOMMUNICATION INFORMATION:
TELEPHONE: (703)413-220
TELEFAX: 248855 OPAT (703)413-220
TELES: 248855 OPAT (703)413-220
INFORMATION FOR SEQ ID NO: 14:
SEQUENCE CHARACTERISTICS:
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                                                                                                                                                                                                                                                            Sequence 14, Application US/08110011A Patent No. 5354664 GENERAL INFORMATION:
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WEDIUM TYPE: Floppy disk
COMPUTER: IEM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                     Doi, Takeshi
Iwasaki, Akio
Saino, Yushi
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Best Local Similarity 99.4*
Matches 491; Conservative
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                                                                                                                                    481 DSGKVDGGDSGSGE 494
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241 GAWDCSVENGGCEHACNAIPGAPRCQCPAGAALQADGRSCTASATQSCNDLCEHFCVPNP 300
                                                                                                                                                                                                                                                                                                    361 ECVEPVDPCFRANCEYQCQPLNQTSYLCVCAEGFAPIPHEPHRCQMFCNQTACPADCDPN 420
                                                                                                                                                                                                                                                                                                                                                          ECVEPVDPCFRANCEYOCQPLNQTSYLCVCAEGFAPIPHEPHRCQMFCNQTACPADCDPN 420
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DQPGSYSCMCETGYRLAADQHRCEDVDDCILEPSPCPQRCVNTQGGFECHCYPNYDLVDG
                                                                                                                                                                                                                                                                                                                                                                                                                  TQASCECPEGYILDDGFICTDIDECENGGFCSGVCHNLPGTFECICGPDSALVRHIGTDC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE OF INVENTION: Thrombin-Binding Substance and Process TITLE OF INVENTION: For Preparing the Same NUMBER OF SEQUENCES: 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ADDRESSEE: OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT
ADDRESSEE: P.C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STREET: 1755 Jefferson Davis Highway, Fourth Floor CITY: Arlington STATE: Virginia IP: 22202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SOFTWARE: Patentin Release #1.0, Version #1.25 CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/014,723
FILING DATE: 19930208
CLASSIFICATION: 435
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Pred. No. 2.9e-188;
1; Mismatches 3;
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
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NAME: Oblon, No. 5273962man F.
REGISTRATION NUMBER: 24,618
REFERENCE/DOCKET NUMBER: 80-07:
TELECOMMUNICATION INFORMATION:
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Patent No. 5273962
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                                                                     120
                                                                                          RWARLDINGAPICGPICVAVSAAEATVPSEPIWEEQQCEVKADGFICEFHFPATCRPLAV 180
                                                                                                      GAWDCSVENGGCEHACNAIPGAPRCQCPAGAALQADGRSCTASATQSCNDLCEHFCVPNP 300
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           MLGVLVLGALALAGLGFPAPAEPQPGGSQCVEHDCFALYPGPATFLNASQICDGLRGHLM
                                                                                                                                        EPGAAAAAVSITYGTPFAARGADFQALPVGSSAAVAPLGLQLMCTAPPGAVQGHWAREAP
                                                                                                                                                                                                 Sequence 16, Application US/08110011A

Patent No. 5354664

GENERAL INFORMATION:
APPLICANT: Doi, Takeshi
APPLICANT: Saino, Yushi
APPLICANT: Saino, Yushi
APPLICANT: Saino, Masao
TITLE OF INVENTION: Thrombin-Binding Substance and Process
TITLE OF INVENTION: For Preparing the Same
NUMBER OF SEQUENCES: 18
CORRESPONDENCE ADDRESS:
ADDRESSEE: OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ADDRESSEE: OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, STREET: 1755 Jefferson Davis Highway, Fourth Floor STATE: Virginia STRY: 22202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/110,011A
FILING DATE: 23-AUG-1993
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Oblon, No. 534664man F.
REGISTRATION NUMBER: 24,618
REFERENCE/POCKET NUMBER: 80-073-0 DIV
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
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US-08-110-011A-16
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                                                                                                                     Length 494;
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                                                                                                                 Score 2768; DB 1;
Pred. No. 2.9e-188;
1; Mismatches 3;
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Patent No. 5516659
GENERAL INFORMATION
APPLICANT: NII, ATSUSHI
APPLICANT: WORISHITA, HIDEAKI
APPLICANT: WEMURA, AKIO
APPLICANT: MOCHIDA, EI
ITILE OF INVENTION: ANTICOAGULANT POLYPEPTIDES
NUMBER OF SEQUENCES: 27
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PC-DOS/MS-DOS
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COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ADDRESSEE: OLIFF & BERRIDGE STREET: P.O. BOX 19928
                                                                                                                   Query Match
Best Local Similarity 99.2%;
Matches 490; Conservative
                                 SEQUENCE CHARACTERISTICS:
LENGTH: 494 amino acids
TELEFAX: (703)413-2220
TELEX: 248855 OPAT UR
INFORMATION FOR SEQ ID NO:
                                                        ; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-110-011A-16
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| DSGKVDDEASGSGD 494
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MEDIUM TYPE: Floppy
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STATE: VA
COUNTRY: USA
COUNTRY: USA
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US-08-307-444A-1
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PatentIn Release #1.0, Version #1.25
                                                                                                                                                                                                                                                                                                                                                                         DB 1;
                                                                                                                                                                                                                                                                                                                                                                       92.2%; Score 2690; DB 1;
100.0%; Pred. No. 9e-183;
tive 0; Mismatches 0
                                                                                                                        NAME: OLIFF, JAMES A.
REGISTRATION NUMBER: 27,075
REFRENCE/DOCKET NUMBER: JAO 27706
TELECOMMUNICATION INFORMATION:
TELEPHONE: (703) 836-6400
TELERAX: (703) 836-2787
TELEX: 90-1799 PTO ALEX
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
                   FILING DATE: 19-SEP-1994
CLASSIFICATION: 435
                                                                   PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/835,436
FILING DATE: 26-FEB-1992
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                 LENGTH: 475 amino acids
                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity 100.(
Matches 475; Conservative
         CURRENT APPLICATION DATA:
APPLICATION NUMBER: US
                                                                                                                                                                                                                                                                                       TOPOLOGY: linear
MOLECULE TYPE: protein
HYPOTHETICAL: NO
                                                                                                                                                                                                                                                           TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                             US-08-307-444A-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61
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Sequence 1, Application US/08587389
Patent No. 5695964
GENERAL INFORMATION:
APPLICANT: NII, ATSUSHI
APPLICANT: MORISHITA, HIDEAKI
APPLICANT: UEMURA, AKIO

US-08-587-389-1

MOCHIDA, EI

APPLICANT:

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TRUNCATED THROMBOMODULIN, RECOMBINANT PRODUCTION THEREOF, AND THERAPEUTIC AGENT (AS AMENDED)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                     CURRENT APPLICATION DATA:
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/587,389
FILING DATE: 17-JAN-1996
CLASSIFICATION NUMBER: US/08/587,389
FILING DATE: 17-JAN-1996
CLASSIFICATION NUMBER: US/08/307,444
ATORNEY/AGENT INFORMATION:
NAMME: OLIFF, JAMES A.
REGISTRATION NUMBER: 27,075
REFERENCE/POCKET NUMBER: 27,075
REFERENCE/POCKET NUMBER: 27,075
TELEPHONE: (703) 836-6400
TELEPHONE: (703) 836-6400
TELEPHONE: (703) 836-2787
TELEPHONE: (703) 836-2787
TELEPHONE: (703) 836-2787
TELEPHONE: (703) 836-6400
TELERA: 90-1799 PTO ALEX
INPORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 475 anino acids
TYPE: amino acids
TYPE: amino acids
TYPE: AMINO acids
                                                                                                                                                                                                                       MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                        STATE: VA
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Matches 475; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TOPOLOGY: linear
MOLECULE TYPE: protein
HYPOTHETICAL: NO
                                                          CORRESPONDENCE ADDRESS:
ADDRESSEE: OLIFF & B
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TITLE OF INVENTION: 11 TITLE OF INVENTION: 11 NUMBER OF SEQUENCES:
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US-08-587-389-1
                                                                                                                                                            COUNTRY: US
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TQASCECPEGYILDDGFICTDIDECENGGFCSGVCHNLPGTFECICGPDSALVRH 475
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Pred. No. 1.7e-182;
0; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                           COMPUTER FRANBLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/307,444A
FILING DATE: 19-SEP-1994
CLASSIFICATION DATA:
APPLICATION NUMBER: US/08/35,436
FILING DATE: G-FEB-1992
ATTORNEY/AGENT INFORMATION:
NAME: OLIFF, JAMES A
REGISTRATION NUMBER: 27,075
REFERENCE/DOCKET NUMBER: JAO 27706
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
                                                                                                                                                APPLICANT: NII, ATSUSHI
APPLICANT: NII, ATSUSHI
APPLICANT: NII, ATSUSHI
APPLICANT: UEMURA, AKIO
APPLICANT: UEMURA, AKIO
APPLICANT: UEMURA, EI
TILLE OF INVENTION: ANTICOAGULANT POLYPEPTIDES
NUMBER OF SEQUENCES: 27
CORRESPONDENCE ADDRESSE:
ADDRESSEE: P.O. BOX 19928
CITY: ALEXANDRIA
STATE: VO. BOX 19928
COUNTRY: USA
COUNTRY: USA
ZIP: 22320
                                                                         RESULT 14
US-08-307-444A-2
Sequence 2, Application US/08307444A
Patent No. 5516659
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELEPANE: (703) 836-5400
TELEFAX: (703) 836-2787
TELEX: 90-1799 PTO ALEX:
INFORMATION FOR SEO ID NO. 2:
SEQUENCE CHARACTERISTICS:
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99.8%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MOLECULE TYPE: protein HYPOTHETICAL: NO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    linear
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Best Local S
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US-00-287-389-2

| Sequence 2, Application US/08587389
| Sequence 2, Application US/08587389
| Patent No. 5695964
| GENERAL INFORMATION:
| APPLICANT: NOILSHITA, HIDEAKI
| APPLICANT: WORISHITA, HIDEAKI
| TITLE OF INVENTION: PRODUCTION THEREOF, AND THERAPEUTIC AGENT (AS AMENDED)
| CORRESPONDENCE ADDRESS: 27
| CORRESPONDENCE ADDRESS: 37
| CORRE
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                                                                                                                                                                                                                                                                                                                               420
                                                                                                                                                                                                                                                                                             GAWDCSVENGGCEHACNAIPGAPRCQCPAGAALQADGRSCTASATQSCNDLCEHFCVPNP
                                 DQPGSYSCMCETGYRLAADQHRCEDVDDCILEPSPCPQRCVNTQGGFECHCYPNYDLVDG
                                                                                                                                                              1 MLGVLVLGALALAGLGFPAPAEPQPGGSQCVEHDCFALYPGPATFLNASQICDGLRGHLM
                                                                                                                                                                                                                                                                                                                                                                                        Length 475;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/587,389
FILING DATE: 17-JAN-1996
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Pred. No. 1.7e-182;
0; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRICE APPLICATION DATA:
APPLICATION NUMBER:
FILING DATE: 19-SEP-1994
ATTORNEY/AGENT INFORMATION:
NAME: OLIFF, JAMES A.
REGISTATION NUMBER: 27,075
REFERENCE/DOCKET NUMBER: JAO 27706
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TELEPHONE: (703) 836-6400
TELEFAX: (703) 836-2787
TELEX: 90-1799 PTO ALEX
INFORMATION FOR SEQ ID NO: 2:
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illarity 99.8%;
Conservative
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COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy of
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Best Local Simi
Matches 474;
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Search completed: December 16, 2002, 17:27:16 Job time : 15.5 secs

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EGF-LIKE 44, CALCIUM-BINDING.
EGF-LIKE 44, CALCIUM-BINDING.
EGF-LIKE 45, CALCIUM-BINDING.
EGF-LIKE 47, CALCIUM-EINDING.
EGF-LI
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        entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                               | PRESENTED | PRES
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                                                                                                                                                                                                                                                                                                                                                                                                         PROSITE; PS00010; ASX HYDROXIL; 5.
PROSITE; PS01177; ANAPHYLATOXIN_1; 3.
PROSITE; PS01178; ANAPHYLATOXIN_1; 3.
PROSITE; PS01186; EGF_1; FALSE_NEG.
PROSITE; PS01186; EGF_2; 5.
PROSITE; PS01187; EGF_CA; 9.
Signal; Glycoprotein; Extracellular matrix; Plasma; EGF-11ke domain; Calcium-binding; Repeat.
   BASEMENT MEMBRANES AND OTHER CONNECTIVE TISSUES.
-1- TISSUE SPECIFICITY: EXPRESSED IN HEART, PLACENTA AND OVARY.
-1- SIMILARITY: CONTAINS 3 ANAPHYLATOXIN-LIKE DOMAINS.
-1- SIMILARITY: CONTAINS 11 EGF-LIKE DOMAINS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ANAPHYLATOMIN-LIKE 1.
ANAPHYLATOMIN-LIKE 1.
ANAPHYLATOMIN-LIKE 2.
ANAPHYLATOMIN-LIKE 3.
EGF-LIKE 2.
EGF-LIKE 3.
EGF-LIKE 4.
CALCIUM-BINDING.
EGF-LIKE 5.
CALCIUM-BINDING.
EGF-LIKE 6.
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EGF-LIKE 6.
CALCIUM-BINDING.
EGF-LIKE 9.
CALCIUM-BINDING.
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                                                                                                                                                                                                                                      Genew; HGNC:3601; FBLN2.
MIM; 135821; -
InterPro; IPR000020; Anaphylatoxin.
InterPro; IPR000152; Asc.hydroxyl.
InterPro; IPR000152; BGF-11ke.
InterPro; IPR001881; BGF-21ke.
Fram; PF00008; EGF, 7.
Fram; PF0181; ANATO; 2.
SMART; SM00179; EGF_CA; 9.
SWART; SM00179; EGF_CA; 9.
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                                                                                                                                                                                                                                                                                                                                                                         1238 ECMIMNGGCDTQCTNSEGSYECSCSEGYALMPDGRSCA-----DIDE--CENNPDIC 1287
                                                                                                                                                                                                                                                                                                                                                                                                                          -----QPGSYSCMCETGYRLAADQHRCEDVDDCILEPSPCP-QRCVNTQGGFECHCYP 353
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "Fibulin-2 (FBLN2): human cDNA sequence, mRNA expression, and mapping
                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                               DCSVENGGCEHACNAIPGAPRCQCPAGAALQADGRSCTASATQSCNDLCEHFCVPNPD-- 301
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Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalia; Butheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SUBUNIT: HOMOTRIMER; DISULFIDE-LINKED. SUBCELLULAR LOCATION: EXTRACELLULAR MATRIX. COMPONENT OF BOTH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     of the gene on human and mouse chromosomes.";
Genomics 22:425-430(1994).
-!- FUNCTION: ITS BINDING TO FIBRONECTIN AND SOME OTHER LIGANDS
                                                                                                                                                                                                                                                                                                                  92;
                                                                                                                                                                                                                                                                                    DB 1; Length 2907;
4.7e-17;
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MEDLINE-95104855; PubMed-7806230;
Zhang R.-Z., Pan T.-C., Zhang Z.-Y., Mattei M.-G., Timpl R.,
Chu M.-L.,
                                                                                                                                                                                                                                                                                                                  92; Indels
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Last annotation update)
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                                               SIMILARITY. SIMILARITY.
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   01-NOV-1995 (Rel. 32, Created)
01-NOV-1995 (Rel. 32, Last sequ
16-OCT-2001 (Rel. 40, Last anno
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32.9%;
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01-NOV-1995
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Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
Bovidae; Bovinae; Bos.
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01-0CT-1996 (Rel. 34, Last sequence update)
15-UNN-2002 (Rel. 41, Last annotation update)
Fibrillin 1 precursor (MP340).
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Matches 119; Conservative
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P98133;
                  CILTRATOR SIGNATURE SIGNAT
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CARBOHYD
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99327 100	tch al similarity bdgcyrbaccepacDopgsys
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us-09-509-994-1.rsp

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EGF-LIKE 15, CALCIUM-BINDING.
EGF-LIKE 19, CALCIUM-BINDING.
EGF-LIKE 19, CALCIUM-BINDING.
EGF-LIKE 20, CALCIUM-BINDING.
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C. THAT BINDS CALCIUM. FIBRILLIN-1-CONTAINING MITH OTHER WITH OTHER
FIBRILLIN-1 MOLECULES OR WITH OTHER COMPONENTS OF THE
MICROFIBRILS.
C. INTRACFIBRILS.
C. 
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| REMEL, APO/3801, AD50328.1; -...|
| REMEL, APO/3801, AD50328.1; -...|
| RIGETPC: IPROU0515; BGF-11ke...|
| RIGETPC: IPROU0515; BGF-11ke...|
| RIGETPC: IPROU0181; BGF-11ke...|
| RIGETPC: IPROU0191; BGF-11ke...|
| RIGETPC: IPROUN191; BGF-11ke...|
| DOMAIN 499 529 EGF-11ke...|
| RIGETPC: IPROUN191; BGF-11ke...|
| RIGETPC: IPROUN191; BUDDING: IPROUN191; BGF-11ke...|
| RIGETPC: IPROUN191; BGF-11ke...
                                                                                                            Euteleostomi;
Sus.
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MEDLINE-99156858; PubMed-10036187;
Biery N.J., Eldadah Z.A., Moore C.S., Stetten G., Spencer F.,
Dietz H.C.;
                                                                      FBN1.
Sus scrofa (Plg).
Rekaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae;
NCBI_TaxID=9823;
16-OCT-2001 (Rel. 40, Created)
16-OCT-2001 (Rel. 40, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
Fibrillin 1 precursor.
                                                                                                                                                                             SEQUENCE FROM N.A.
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This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation -
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THE EARLY PROCESS OF ELASTIC FIBER ASSEMBLY.
-1- DISEASE: DEFECTS IN FBNZ ARE THE CAUSE OF CONGENITAL CONTRACTURAL
ARRACHNODACTYLY (CCA) (ALSO KNOWN AS BEALS SYNDROME). CCA IS
PHENOTYPICALLY SIMILAR TO MARFAN SYNDROME, BUT DOES NOT EFFECT THE
AORTA AND THE EYES.
              ------CS-----GVCHNLPGTFECICGPDSALV 473
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Am. J. Med. Genet. 92:7-12(2000).
-!- FUNCTION: STRUCTURAL COMPONENT OF CONNECTIVE TISSUE MICROFIBRILS
                                                                                                                                                                                                                                                                                                                                                                            Lee B., Godfrey M., Vitale E., Hori H., Mattei M.-G., Sarfarazi M., Tsipouras P., Ramirez F., Hollister D.; "Linkage of Marfan syndrome and a phenotypically related disorder to two different fibrillin genes.";
                                                            MEDLINE=98407789; PubMed=973771;
Babcock D., Gasner C., Francke U., Maslen C.;
"A single mutation that results in an asp-to-his substitution and partial exon skipping in a family with congenital contractual
                                                                                                                                                                                                                    Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Putnam E.A., Zhang H., Ramirez F., Milewicz D.M.; "Fibrillin-2 (PRNZ) mutations result in the Marfan-like disorder, congenital contractural arachnodactyly."; Nat. Genet. 11:456-458(1995).
                                                                                                                                                                                                                                                                        MEDLINE=94165150; PubMed=8120105; Zhang H., Apfelroth S.D., Hu W., Davis E.C., Sanguineti C., Zhang H., Apfelroth S.D., Ru W., Davis E.C., Sanguineti C., Bonadio J., Mecham R.P., Ramirez F.; Structure and expression of fibrillin-2, a novel microfibrillar component preferentially located in elastic matrices."; J. Cell Biol. 124:855-863(1994).
                                              ---TLTPPAVGLV
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Belleh S., Zhou G., Wang M., Der Kaloustian V.M., Pagon R.A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               - SIMILARITY: CONTAINS 47 EGF-LIKE DOMAINS.
- SIMILARITY: CONTAINS 7 TGF-BETA BINDING PROTEIN DOMAINS.
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                                              RHIGIDCDSGKVDGGDSGSGEPPPS-----PTPGS----
                                                                                                                                                01-JUN-1994 (Rel. 29, Created)
101-FEB-1996 (Rel. 33, Last sequence update)
101-VUN-2002 (Rel. 41, Last annotation update)
Fibrillin 2 precursor.
                                                                                                                            PRT; 2911 AA
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                                                                                                                            STANDARD;
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                                                                                                                                                                                                           Homo sapiens (Human)
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30.6%; Pred. No. 1...
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EGF-LIKE 39, CALCIDM-BINDING.
EGF-LIKE 40, CALCIDM-BINDING.
EGF-LIKE 41, CALCIDM-BINDING.
EGF-LIKE 42, CALCIDM-BINDING.
EGF-LIKE 42, CALCIDM-BINDING.
EGF-LIKE 44, CALCIDM-BINDING.
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1.6e-16;
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the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                        InterPro; IPR000152; Asx_hydroxyl.

InterPro; IPR0001561; EGF-11ke.

InterPro; IPR001861; EGF-Ga.

InterPro; IPR001438; EGF_IC.

InterPro; IPR001438; EGF_IC.

InterPro; IPR0001438; EGF_IC.

InterPro; IPR0001438; EGF_IC.

InterPro; IPR00015; EGF_IC.

InterPro; IPR00015; EGF_IC.

INTERPRO; IPR00109; EGF_IC.

INTERPRO; INTERPRO; IPR00109; EGF_IC.

INTERPRO; INTER
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EMBL; X62009; -; NOT_ANNOTATED_CDS.
PIR; S17063; S17063.
PIR; S31101; S31101.
HSSP; P35555; 1EMN.
Genew; HGNC33604; FBNZ.
MIM; 121050;
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MEDLINE-94010947; PubMed-7691719;
Corson G.M., Chalberg S.C., Dietz H.C., Charbonneau N.L., Sakai L.Y.;
"Fibrillin binds calcium and is coded by cDNAs that reveal a
multidomain structure and alternatively spliced exons at the 5'
                                                                                                                                                                                                         448
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MEDILTE-91304567; PubMed-1852206;
MEDILTE-91304567; PubMed-1852206;
Lee B., Godfrey M., Vitale E., Hori H., Mattei M.-G., Sarfarazi M.,
Tsipouras P., Ramirez F., Hollister D.W.;
"Linkage of Marfan syndrome and a phenotypically related disorder to
two different fibrillin genes.";
Nature 352:330-334(1991).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sakai L.Y., Keene D.R., Glanville R.W., Bachinger H.P.; a cysteine-"Purification and partial characterization of fibrillin, a cysteine-rich structural component of connective tissue microfibrils.";
                        -----QPGSYSCMCETGYRLAADQHRCEDVDDCILEPSPCP-QRCVNTQGGFECHCYP 353
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Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo
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MEDLINE-91304568; PubMed-1852207;
Maslen C.L., Corson G.M., Maddox B.K., Glanville R.W., Sakai L.Y
"Partial sequence of a candidate gene for the Marfan syndrome.";
Nature 352:334-337(1991).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   for fibrillin, the
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-JUN-1994 (Rel. 29, Created)
01-JUN-1994 (Rel. 29, Last sequence update)
01-JUN-2002 (Rel. 41, Last annotation update)
Fibrillin 1 precursor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pangilinan T., Bonadio J.;
"Genomic organization of the sequence coding
defective gene product in Marfan syndrome.";
Hum. Mol. Genet. 2:961-968(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRT;
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MEDLINE=91317849; PubMed=1860873;
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MEDLINE=93372860; PubMed=8364578;
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FBN1 OR FBN.
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VARIANTS MFS SER-1249; ARG-1663; SER-2221 AND SER-2307.
MEDLINE=93250834; PubMed=1301946;
Dietz H.C., Saraiva J.M., Pyeritz R.E., Cutting G.R., Francomano C.A.;
"Clustering of fibrillin (FBN1) missense mutations in Marfan syndrome patients at cysteine residues in EGF-like domains.";
                                                                                                                                                                                                                                                                                              MEDLINE=96144829; PubMed=8568869;
Knott V., Downing A.K., Cardy C.M., Handford P.A.;
"Calcium binding properties of an epidermal growth factor-like domain
pair from human fibrillin-1.";
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ļ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "Solution structure of a pair of calcium-binding epidermal growth factor-like domains: implications for the Marfan syndrome and other
                      MEDLINE-98031893; PubMed-9362480; Yuan X., Downing A.K., Knott V., Handford P.A.; "Solution structure of the transforming growth factor beta-binding protein-like module, a domain associated with matrix fibrils.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            C., Boileau C.;
of mutations in the human
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Dietz H.C., Cutting G.R., Pyeritz R.E., Maslen C.L., Sakai L.Y.,
Corson G.M., Puffenberger E.G., Hamosh A., Nanthakumar E.J.,
Curristin S.M., Stetten G., Meyers D.A., Francomano C.A.;
Marfan syndrome caused by a recurrent de novo missense mutation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STRUCTURE BY NMR OF 2124-2205.
MEDLINE-96222301; PubMed-8653794;
Downing A.K., Knott V., Werner J.M., Cardy C.M., Campbell I.D.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE=97169383; PubMed=9016526; Collod-Beroud G., Beroud C., Ades L., Black C., Boxer M., Brockgoffrey M., Hayward C., Karttunen L., Milewicz D., Peltonen L. Richards R.L., Wang W., Junien C., Boileau C.; "Marfan Database (second edition): software and database for analysis of mutations in the human FBNI gene."; Nucleic Acids Res. 25:147-150(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE-98062175; PubMed-9401003;
Hayward C., Brock D.J.H.;
"Fibrillin-1 mutations in Marfan syndrome and other type-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE-96174615; PubMed-8594563;
Collod G., Beroud C., Soussi T., Junien
"Software and database for the analysis
FBN1 gene.";
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J. Clin. Invest. 89:1674-1680(1992).
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                                                                                                                                                                                                                                                                                                                                                                                                                                             Mol. Biol. 255:22-27(1996).
                                                                                                                                                                                                                                                            STRUCTURE BY NMR OF 2124-2205
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Hum. Mutat. 10:415-423(1997).
STRUCTURE BY NMR OF 2054-2125
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                                                                                                                                                                                    EMBO J. 16:6659-6666(1997).
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Nature 352:337-339(1991).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDLINE-94272487; PubMed-8004112; Hayward C., Rae A.L., Porteous M.E.M., Logie L.J., Brock L.J.; "Two novel mutations and a neutral polymorphism in EGF-like domains of the fibrillin gene (FBN1): SSCP screening of exons 15-21 in Marfan
                                                                                                                                                                                              Hewett D.R., Lynch J.R., Smith R., Sykes B.C.;
"A nove! fibrilin mutation in the Marfan syndrome which could
disrupt calcium binding of the epidermal growth factor-like module.";
dum. Mol. Genet. 2:475-477(1993).
VARIANTS MFS ILE-548 AND ALA-723.
MEDLINE-94010946; PubMed-8406497;
Dletz H.C., McIntosh I., Sakai L.Y., Corson G.M., Chalberg S.C.,
Pyeritz R.E., Francomano C.A.;
"Four novel FBN1 mutations: significance for mutant transcript level and EGF-like domain calcium binding in the pathogenesis of Marfan
                                                                                                                                                                                                                                                                                   VARÍANTS MFS R-862; Y-1117; P-1137 AND F-1589, AND VARIANT A-1148. MEDLINE-94108431; PubMed-8281141; Tynan K., Comeau K., Pearson M., Wilgenbus P., Levitt D., Gasner C., Berg M.A., Miller D.C., Francke U.; "Mutation screening of complete fibrillin-1 coding sequence: report of five new mutations, including two in 8-cysteine domains.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               VARIANTS MFS G-217; N-1023; R-1074; Y-1242; R-1513; E-2127; W-2151; K-2447 AND R-2511. M-2151; W-2151; M-2447 AND R-2511; W-2151; Kalinulainen K., Karttunen L., Puhakka L., Sakai L., Peltonen L.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             "A novel mutation of the fibrillin gene causing ectopia lentis."; Genomics 19:573-576(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDLINE-95067970; PubMed-7977366;
Karttunen L., Raghunath M., Loenqqvist L., Peltonen L.;
A compound-heterozygous Marfan patlent: two defective fibrillin alleles result in a lethal phenotype.";
Am. J. Hum. Genet. 55:1083-1091(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VARIANT EL LYS-2447.
MEDLINE-94245249; PubMed-8188302;
Lonnqvist L., Child A., Kainulainen K., Davidson R., Puhakka L.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Hewett D.R., Lynch J.R., Child A., Sykes B.C.;
"A new missense mutation of fibrillin in a patient with Marfan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Hayward C., Porteous M.E.M., Brock D.J.H.; A novel mutation in the fibrillin gene (FBN1) in familial
                                                                                                                                                                                                                                                                                                                                                                                          Mol. Genet. 2:1813-1821(1993)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             variant of Marfan syndrome.";
J. Clin, Invest. 94:709-713(1994).
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MEDLINE-94351682; PubMed-8071963;
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MEDLINE-93278402; Pubmed-8504310;
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MEDLINE-9517477; PubMed=7870075;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   syndrome patients.";
Hum. Mol. Genet. 3:373-375(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Med. Genet. 31:338-339(1994).
                                                                                                                            Genomics 17:468-475(1993).
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Ota K., Kumar A., Wada J., Liu Z., Kanwar Y.S.;
Submitted (APR-1995) to the EMBL/GenBank/DDBJ databases.

-I- FUNCTION: STRUCTURAL COMPONENT OF CONNECTIVE TISSUE MICROFIBRILS
THAT BINDS CALCIUM. FIBRILLIN-1-CONTAINING MICROFIBRILS PROVIDE
-I- DONG-TERM FORCE BEARING STRUCTURAL SUPPORT.
-I- PTM: FORMS INTERMOLECULAR DISJUEIDE BONDS EITHER WITH OTHER
FIBRILLIN-1 MOLECULES OR WITH OTHER COMPONENTS OF THE
                                                                                                                                                                                           Gaps
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MEDLINE=95130561; PubMed=7829516;
Yin W., Germiller J., Sanguineti C., Smiley E., Pangilinan T.,
Pereira L., Ramirez F., Bonadio J.;
"Primary structure and developmental expression of Fbn-1, the mouse fibrillin gene.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NYDLVDGE--CVEPVDPC--FRANCEYQCQPLNQT-SYLCVCAEGFA-----PIP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               474 RHIG------TDCDSGKVDGGDSGSGEPPPSPTPGS-----TLTPPAVGLV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
"Mutations in the fibrillin gene responsible for dominant ectopia
lentis and neonatal Marfan syndrome.";
Nat. Genet. 6:64-69(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    HEPHRCOMFCNQTACPADCDPNTQAS -- CECPECYILDDGFICTDIDEC - EN-:---
                                                                                                                                                                                      Indels 122;
                                                                                                                                        Length 2871;
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-1- SIMILARITY: CONTAINS 47 EGF-LIKE DOMAINS.
-1- SIMILARITY: CONTAINS 7 TGF-BETA BINDING PROTEIN DOMAINS.
                                                                                                                                        12.4%; Score 363; DB 1; 30.8%; Pred. No. 2.1e-16; iive 22; Mismatches 105.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FBN1_MOUSE STANDARD; PRT; 2871 AA. 061554, 060826; Rel. 35, Created) 01-NOV-1997 (Rel. 35, Last sequence update) 15-JUN-2002 (Rel. 41, Last annotation update) Fibrillin 1 precursor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Biol. chem. 270:1798-1806(1995).
                                                                                                                                                                                    Matches 111; Conservative
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       use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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[2]
SEQUENCE OF 644-956 FROM N.A.
MEDLINE-9723883; PubMed-9083061;
MEDLINE-9723883; PubMed-9083061;
MEDLINE-9723883; PubMed-9083061;
"Primary structure and expression of matrilin-2, the closest relative of cartilage matrix protein within the von Willebrand factor type A-1ike module superfamily.";
1ike module superfamily.";
[3]
                                                                                                                Duesterhoeft A., Lauber J., Mewes H.-W., Gassenhuber J., Wiemann S.; Submitted (JAN-2000) to the EMEL/GenBank/DDBJ databases.
-!- FUNCTION: INVOLVED IN MATRIX ASSEMBLY (BY SIMILARITY).
-!- SUBCELLULAR LOCATION: Secreted.
-!- ALTERNATIVE PRODUCTS: 2 ISOFORMS; A LONG FORM (SHOWN HERE) AND A SHORT FORM; ARE PRODUCTS: BY ALTERNATIVE SPLICING.
-!- SIMILARITY: CONTAINS 10 EGF-LIKE DOMAINS.
-!- SIMILARITY: CONTAINS 2 VWFA DOMAINS.
                                                                                                                                                                                                                                                                                                                                                                                       DR PRIVIS; PRO0453; VWEADOMAIN.
DR SMART; SM00179; EGF_CA; 10.
DR SMART; SM00179; EGF_CA; 10.
DR SMART; SM001327; VWA; 2.
DR PROSITE; PS00010; ASX_HYDROXYL; 9.
DR PROSITE; PS0186; EGF_2; 9.
DR PROSITE; PS0214; VWR7; 2.
W EGF-Like domain; Signal; Glycoprotein; Repeat; Coiled coil; W Alternative splicing.
T SIGNAL
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24 956 WARDONETTEL.
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EGF-LIKE 9.
EGF-LIKE 9.
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EMBL; AL137638; CAB70853.1; ALT_INIT.
HSSP; P01132; 1EGF.
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Interpro; IPR001561; EGF-11ke.
Interpro; IPR001881; EGF_Ca.
Interpro; IPR002035; VWF_A.
Pfam; PF00008; EGF; 10.
Pfam; PF00092; Vwa; 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE OF 244-956 FROM N.A. TISSUE-Testis;
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                                                                                                                                                                                                                                                                                                1442 KACEDIDECSLPNICVFGTCHNLPGLFRCECEIGYELDRSGGNCTDVNECLDPTTCISGN 1501
                                                                                                                                                                                                                                                                                   266 QCPAGAALQADGRSCTASATQSCNDLCEHFCVPNP------DQPGSYSCMCETGYRL 316
                                                                                                                                                                                                                                                                                                                           AADQHRCEDVDDCILEPSPC-PQRCVNTQGGFECHCYPNYDLVDGE--CVEPVDPC--FR 371
                                                                                                                                                                                                                                                                                                                                                                   372 ANCEYQCQPLNQT-SYLCVCAEGFA-----PIPHEPHRCQMFCNQTACPADCDPN 420
                                                                                                                                                                                                                                                                                                                                                                                                           451 -----CS-----GVCHNLPGTFECICGPDSALVRHIG------TDCDSGK 484
                                                                                                                                                                                                Score 361; DB 1; Length 2871;
Pred. No. 2.9e-16;
5; Mismatches 127; Indels 128; Gaps
                                                                                                                                                                                                                                          212 SAAVAPLGL-----QLMCTAPPGAVQGHWAREAPGAWDCSVENGGCEHACNAIPGAPRC 265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Muratoglu S., Krysan K., Balazs M., Sheng H., Zakany R., Modis L.,
Kiss I., Deak F.;
"Primary structure of human matrilin-2, chromosome location of the
MARN2 gene and conservation of an AT-AC intron in matrilin genes.";
Cytogenet. Cell Genet, 90:323-327(2000).
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Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1502 CVN-----TPGSYTCDCSPDFELNPTRVGCV 1527
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30-MAY-2000 (Rel. 39, Created)
16-OCT-2001 (Rel. 40, Last sequ
16-OCT-2001 (Rel. 40, Last sequ
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                                                                                                                                                                                                             Best Local Similarity
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                                                                                                                                                                                                                                                               101; Indels 44; Gaps
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Pan T.-C., Sasaki T., Zhang R.-Z., Faessler R., Timpl R., Chu M.-L.;
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Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Murinae, Mus
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N-LINKED (GLONAC. . .) (POTENTIAL).

MISSING (IN SHORT ISOFORM).
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( -> L (IN REF. 2).

( -> F (IN REF. 2).
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TISSUE=Fibroblast;
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                                                                                                                                                                                                                                                                                                                                                                                                                        Fibulin-2 precursor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mus musculus (Mouse)
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935
956 AA;
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-!- SUBDUTT: HOMOTRIMER; DISULFIDE-LINKED.
-!- SUBCELLULAR LOCATION: Extracellular matrix.
-!- ALTERNATIVE PRODUCTS: At least 2 isoforms; 1 (shown here) and 2/EGF3-less; are produced by alternative splicing.
-!- TISSUE SPECIFICITY: COMPONENT OF BOTH BASEMENT MEMBRANES AND OTHER CONNECTIVE TISSUES.
-!- SIMILARITY: CONTAINS 3 ANAPHYLATOXIN-LIKE DOMAINS.
-!- SIMILARITY: CONTAINS 11 EGF-LIKE DOMAINS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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R HSSP; P00736; 1APQ.

R MGD; MGI:95488; Fbln2.

R InterPro; 1PR0000152; Asx_bydroxyl.

R InterPro; 1PR000152; Asx_bydroxyl.

R InterPro; 1PR000561; EGF-like.

R InterPro; 1PR000561; EGF-like.

R InterPro; 1PR00008; EGF.Ca.

R Ffam; PF01081; ANATO; 2.

R SMART; SM00104; EGF.Ca, 9.

R SMART; SM00107; EGF.Ca, 9.

R SMART; SM01007; EGF.Ca, 9.

R SMART; SM01001; EGF.Like; 2.

R SMART; SM01017; ANAPHYLATOXIN.1; 5.

R ROSITE; PS01177; ANAPHYLATOXIN.1; 3.

R ROSITE; PS01178; ANAPHYLATOXIN.2; 3.

R ROSITE; PS01186; EGF.2; 5.

R ROSITE; PS01186; EGF.2; 5.

R ROSITE; PS01186; EGF.Ca; 10.

R ROSITE; PS01186; EGF.Ca; 10.
                                                                                                                                                                                                           SEQUENCE FROM N.A., AND ALTERNATIVE SPLICING.
MEDILTS=9937866; pubmed=10406956;
Garassel S., Sicot F.-X., Gotta S., Chu M.-L.;
"Mouse fibulin-2 gene. Complete exon-intron organization and promoter
"Structure and expression of fibulin-2, a novel extracellular matrix protein with multiple EGF-like repeats and consensus motifs for calcium binding.";
                                                                                                                                                                                                                                                                                                                                                                        characterization.";
Eur. J. Biochem. 263:471-477(1999).
-i- FUNCTION: ITS BINDING TO FIBRONECTIN AND SOME OTHER LIGANDS IS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SUBDOMAIN NB (CYS-FREE).
ANAPHYLATOXIN-LIKE 1.
ANAPHYLATOXIN-LIKE 2.
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SIGNAL 1 26
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EMBL; AF13523; AAD34456.1; -
EMBL; AF135249; AAD34456.1; -
EMBL; AF135241; AAD34456.1; JOINED.
EMBL; AF135241; AAD34456.1; JOINED.
EMBL; AF135242; AAD34456.1; JOINED.
EMBL; AF135243; AAD34456.1; JOINED.
EMBL; AF135244; AAD34456.1; JOINED.
EMBL; AF135244; AAD34456.1; JOINED.
EMBL; AF135246; AAD34456.1; JOINED.
EMBL; AF135249; AAD34456.1; JOINED.
EMBL; AF135231; AAD34456.1; JOINED.
EMBL; AF135231; AAD34456.1; JOINED.
EMBL; AF135231; AAD34456.1; JOINED.
EMBL; AF135251; AAD34456.1; JOINED.
EMBL; AF135251; AAD34456.1; JOINED.
EMBL; AF135251; AAD34456.1; JOINED.
EMBL; AF135251; AAD34456.1; JOINED.
                                                                                                                            Cell Biol. [23:1269-1277(1993).
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HSSP; P00736; 1APQ.
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ANAPHYLATOXIN-LIKE 3.

BGF-LIKE 1, CALCIUM-BINDING (POTENTIAL).

BGF-LIKE 3, CALCIUM-BINDING (POTENTIAL).

BGF-LIKE 6, CALCIUM-BINDING (POTENTIAL).

BGF-LIKE 7, CALCIUM-BINDING (POTENTIAL).

BGF-LIKE 8, CALCIUM-BINDING (POTENTIAL).

BGF-LIKE 10, CALCIUM-BINDING (POTENTIAL).

BGF-LIKE 11, CALCIUM-BINDING (POTENTIAL).

BY SIMILARITY.

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87DB2A10A8FDC45F CRC64;
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Search completed: December 16, 2002, 17:25:00 Job time : 20.5 secs

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                                                       324 EDVDDCILEPSPCPQRCVNTQGGFECHCYPNYDLVDG--ECVEPVDPCFRANCEYQCQPL 381
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-!- SIMILARITY: CONTAINS 7 TGF-LETE DOMAINS.
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Zhang H., Hu W., Ramirez F.;
"Developmental expression of fibrillin genes suggests heterogeneity
of extracellular microfibrils.";
J. Cell Biol. 129:1165-1176(1995).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mus musculus (Mouse).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
                       NTSYSRWARLDING--APLCGPLCVAVSAAEATVPSE-PIWEEQQCEV-----KADGFL
                                                                                                                                                                       179 CKFNFKGMCSPLALGGPG-----QLTYTTPFQATTSSLKAVPFASVANVV-CGDEAESK
                                                                                                                                                                                                                                                                           232 TNYYLCKETTAGV-FHWGSSGPLCVSPKFGCSFNNGGCQQDCFEGGDGSFRCGCRPGFRL
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SEQUENCE OF 210-317 FROM N.A.
MEDLINE=94140368; Pubmed-8307578;
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Genomics 18:667-672(1993)
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                                                                 This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its mose by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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EGF-LIKE 2.

EGF-LIKE 3.

EGF-LIKE 4.

CALCIUM-BINDING (POTENTIAL).

EGF-LIKE 5.

EGF-LIKE 7.

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SSVAA----DVISLILN----GDGGVGRRRLWIGLQLPPGCGDPKRLGPLRGFQWVTGDN 115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PROSITE; PS00010; ASX_HYDROXYL; 3.
PROSITE; PS00010; ASX_HYDROXYL; 3.
PROSITE; PS00041; C_TYPE_LECTIN_1; FALSE_NEG.
PROSITE; PS01186; EGF_2; 3.
PROSITE; PS01187; EGF_CA; 3.
Receptor; EGF_11ke domain; Signal; Transmembrane; Glycoprotein;
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1.ve 56; Mismatches 209; Indels
SIMILARITY: CONTAINS 1 C-TYPE LECTIN FAMILY DOMAIN. SIMILARITY: CONTAINS 5 EGF-LIKE DOMAINS.
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C-TYPE LECTIN.
                                                                                                                                                                                                                                                                                                                                               InterPro; IPR000152; Asx_hydroxyl.
InterPro; IPR000561; EGF-1ike.
InterPro; IPR01081; EGF-Ca.
InterPro; IPR011304; Lectin_C.
Ffam; PF00008; EGF; 5.
Pfam; PF00059; lectin_C; 1.
SMART; SM001034; CLECT; 1.
SMART; SM00101; EGF_C, 5.
SMART; SM00101; EGF_CA; 5.
                                                                                                                                                                                                                                                                           EMBL; AF136537; AAG01572.1; -. EMBL; AF160978; AAF80402.1; -. HSSP; P35555; 1EMN.
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422
437
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TRANSMEM
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                65 SVAA----DVISLLLNGDGGVGRR--RLWIGLQLPPGCGDPKRLGPLRGFQWVTGDNNTS 118
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EGF-LIKE 2.
EGF-LIKE 2.
EGF-LIKE 4.
EGF-LIKE 4.
CALCIUM-BINDING (POTENTIAL).
EGF-LIKE 5, CALCIUM-BINDING (POTENTIAL).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        55; Mismatches 211; Indels 124; Gaps
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PROSITE; PS00010; ASX_HYDROXYL; 3.
PROSITE; PS00015, C_TYPE_LECTIN_1; FALSE_NEG.
PROSITE; PS50041; C_TYPE_LECTIN_2; 1.
PROSITE; PS01186; EGF_2; 3.
PROSITE; PS01187; EGF_CA; 3.
Receptor; EGF_like domain; Signal; Transmembrane; Glycoprotein;
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COMPLEMENT COMPONENT CLQ RI
EXTRACELLULAR (POTENTIAL).
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InterPro; IPR001512; Asx.hydroxyl.
InterPro; IPR001512; BGF-1ike.
InterPro; IPR001881; EGF_Ca.
InterPro; IPR001881; EGF_Ca.
InterPro; IPR001304; Lectin_C.
Pfam; PP00059; lectin_C: 1.
SMART; SM00034; CLECT; 1.
SMART; SM00179; EGF_CA; 3.
                                                                                                                                                                                                                   AF099939; AAD47906.1; -. AF099938; AAD47906.1; JOINED.
                                                                                                                                                                EMBL; AF074856; AAC63274.1; -.
                                                                                                                                                                                           AF081789; AAC62649.1; -.
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Matches 167; Conservative
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HSSP;
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TRAIN-Wistar; TISSUE-Lung;

XX MEDLINE-20507883; PubMed-10934210;

XEDLINE-20507883; PubMed-10934210;

XEDLINE-20507883; PubMed-10934210;

XEDLINE-20507883; PubMed-10934210;

XPO Dean Y. D., Addreal B. P., Adatsu H., Gasque P.;

Yelecular and cellular properties of the rat AA4 antigen, a C-type and Pubmed Collular and Cellular a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Lovik G., Vaage J.T., Dissen E., Szpirer C., Ryan J.C., Rolstad B.; "Characterization and molecular cloning of rat ClqRp, a receptor on NK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                OPET61; 09JIZ6;
15-JUN-2002 (Rel. 41, Last sequence update)
15-JUN-2002 (Rel. 41, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
15-JUN-2002 (Rel. 41, Last annotation update)
Complement component Clq receptor precursor (Complement component 1, subcomponent, receptor 1) (ClqRp) (ClqRp(P)) (ClqRbL/SPA receptor)
(CD93 antigen) (Cell surface antigen AA4).
                                                            236
                                                                                                                                                                                                                                                                                                                          295 VICAS------RNPCSSNPCTGGGMCHSVPLSENYTCRCPSGYQLDSSQVHCVDID 344
                                                                                                                                                                                                                                                                                                                                                                                         DCILEPSPCPQRCVNTQGGFECHCYPNYDLVDG----ECVEPVDPCFRANCEYQCQPLNQT 384
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        393 ----CAQGCI------ADGSFYCSCKEGYIVSGEDSTQCE 423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       441 DIDECEN--GGFCSGVCHNLPGTFECICGPDSALVRHIGTDCDSG-------KVD 486
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Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
PATCRPLAV-EPGAAAAVSITYGTPFAARGADFQALPVGSSAAVAPLGLQ-----LM 223
                                                                                                                                                                                                                                                          278 RSCTASATQSCNDLCEHFCVPNPDQPG-----SYSCMCETGYRLAADQHRCEDVD 327
                                                                                                                                                                                                                                                                                                                                                                                                                                     184 KGMCRPLALGGPG-----RVTYTTPFQATTSSLEAVPFASVANVA-CGDEAKSETHYFL
                                                                                                                               CT - APPGAVQGHWAREAP - - - - GAWDCSVENGGCEHAC - NAIPGAPRCQCPAGAALQADG
                                                                                                                                                                                           237 CNEKTPGIF--HWGSSGPLCVSPKFGCSFNNGGCQQDCFEGGDGSFRCGCRPGFRLLDDL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SYLCVCAEGFAPIPHEPHRCQMFCNQTACPADCDPNTQAS--CECPEGYIL--DDGFICT
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MEDLINE-20545218; PubMed=11093152;
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                       (POTENTIAL)
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                                                                                                                                                                                                                                                                                                                                                                                               Mismatches 210; Indels 124;
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EGF-LIKE 2.
EGF-LIKE 3, CALCIUM-BINDING (1)
EGF-LIKE 4, CALCIUM-BINDING (1)
EGF-LIKE 5, CALCIUM-BINDING (1)
POLY-LEU.
BY SIMILARITY.
                                                                                                                                                                                                                                       /FTIG+VR_013573.

T -> V (IN AA SEQUENCE).

T -> T (IN AA SEQUENCE).

TA -> RI (IN AA SEQUENCE).

S -> N (IN REF. 1).

G -> A (IN AA SEQUENCE).

S -> A (IN AA SEQUENCE).

R -> O (IN AA SEQUENCE).

R -> O (IN AA SEQUENCE).

P -> S (IN REF. 1).

W; EECAOFEAC55FCAC2 CRC64;
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V -> A.
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This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation -
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--- SUBCELLULAR LOCATION: Type I membrane protein.

--- SUBCELLULAR LOCATION: Type I membrane protein.

--- TISSUE SPECIFICITY: Expressed in lung, heart and bone marrow.

Expressed at lower level in ovary, whole embryo and fetal liver.

Not detected in brain, adult liver or thymus. Highly expressed in peritonneal cavity and bone marrow macrophages. Not detected in epithelial cells.

--- DEVELOPMENTAL STAGE: First detectable in day 9 embryos, in the endocardium and vascular endothelium in the anterior part of the embryo. Expression in endothelial cells, initially restricted to aorta, omphalomesenteric and umbilical arteries, later extends to onday 10, detectable in the entire embryo.

--- On day 10, detectable in the entire embryo.

--- FPM: N- and 0-91ycosylated (By similarity).

--- SIMILARITY: CONTAINS 1 C-TYPE LECTIN FAMILY DOMAIN.
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                                                                                                                                                                                                        15-JUN-2002 (Rel. 41, Last Sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
Comploment Component Clq receptor precursor (Complement component 1, subcomponent, receptor 1) (ClqRp) (ClqR(p)) (Clq/MBL/SPA receptor)
(CD93 antigen) (Cell surface antigen AA4) (Lymphocyte antigen 68).
ClQR1 OR CD93 OR ClQRP OR LY68 OR AA4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    receptor, C19Rp.";
Mamm. Genome 10:789-793(1999).
-!- PUNCTION: Receptor (or element of a larger receptor complex) for C19, mannose-binding lectin (MBL2) and pulmonary surfactant protein A (SPA). May mediate the enhancement of phagocytosis in monocytes and macrophages upon interaction with soluble defense collagens. May play a role in intercellular adhesion. May play a role in in colls. May play a role in in colls. May play a role in in colls. May play a role in in colls.
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Immunity 10:691-700(1999).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Cotman C.A., Bengtsson U., Tenner A.J.; "Characterization of the murine homolog of ClqR(P): identical cellul expression pattern, chromosomal location and functional activity of
                                                                                                                                                                                                                                                                                                                                                            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostoml;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Walport M.J., Botto M.;
of the 126-kDa human Clq/MBL/SP-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Kim T.S., Park M., Nepomuceno R.R., Palmarini G., Winokur
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Petrenko O., Beavis A., Klaine M., Kittappa R., Godin I.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STRAIN-129/Sy; TISSUE-Spleen, and Endothelial cells; MEDLINE-99359842; PubMed-10430665; Norsworthy P.J., Taylor P.R., Walport M.J., Botto M. "Cloning of the mouse homolog of the 126-kba human C
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487 GGDSGSGE-----PPPSPTPGSTLTPPA 509
                                     483 EEDKGEKEGSTVPRAATASPTRGPEGTPKA 512
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               the human and murine ClqR(P)."; Mol. Immunol. 37:377-389(2000).
                                                                                                                                                                                           (Rel. 41, Created)
                                                                                                                                               STANDARD;
                                                                                                                                                                                                                                                                                                                                           Mus musculus (Mouse).
                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PubMed=11074255;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TISSUE=Leukemia;
PubMed=10403644;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Lemischka I.R.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STRAIN-129/Sv
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                                                                                                                                               CD93_MOUSE
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 RR SEQUENCE FROM N.A.

RRY SEQUENCE FROM N.A.

RRY SEQUENCE FROM N.A.

RA Deloukas P., Matchaws L.H., Ashurst J., Burton J., Gilbert J.G.R.,

RA Jones M., Stavides G., Almeida J.P., Babbage A.K., Bagguley C.L.,

RA Balley J., Barlow K.F., Blakey S.E., Bridgeman A.M., Brown A.J.,

RA Basley O.P., Bird C.P., Blakey S.E., Bridgeman A.M., Brown A.J.,

RA Buck D., Burrill W.D., Butler A.P., Carder C., Carter N.P.,

Chegg S., Cobley V.E., Collier R.E., Connor R.E., Corby N.R.,

Coulson A., Coville G.J., Deadman R., Dhami P.D., Dunn M.,

RA Claffam D.V., Griffiths C., Griffiths M.N.D., Gwilliam R., Hall R.E.,

RA Huckle E., Hunt A.R., Hunt S.E., Jekosch K., Johnson C.M., Johnson D.,

RA Kay M.P., Kimberley A.M., King A., Knights A., Laird G.K., Lawlor S.,

RA Marsh V.L., Martin S.L., McConnachie L.J., McLay K., McChurray A.A.,

RA Milne S.A., Mistry D., Moore M.J.F., Mullikin J.C., Nickerson T.,

RA Phillimore B.J.C.T., Prathalingam S.R., Plumb R.W., Ramsay H.,

RA Swann R.M., Sycamore N., Taylor R., Thomas D.W., Thorpe A.,

RA Swann R.M., Sycamore N., Taylor R., Thomas D.W., Thorpe A.,

RA Tracey A., Tromans A.C., Vaudin M., Walli M., Wallis J.M.,

RA Tracey A., Tromans A.C., Vaudin M., Walli M., Wallis J.M.,

RA Hinding L., Wray P.W., Hubbard T., Durbin R.M., Bentley D.R., Willing B.
                                                                                                                                                                                                                                                          ט
409 NQTACPADCDPNTQASCECPEGYILDDGFICTDIDECENGGFCSGVCHNLPGTFECICGP 468
                                                      Nepomuceno R.R., Henschen-Edman A.H., Burgess W.H., Tenner A.J.; "cDMs cloning and primary structure analysis of CigR(P), the human Cid/MBL/SPA receptor that mediates enhanced phagocytosis in vitro."; Immunity 6:119-129(1997)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             comparative analysis of human chromosome 20.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Steinberger P., Szekeres A., Wille S., Stockl J., Selenko N., Prager E., Staffler G., Madic O., Stockinger H., Knapp W.; "Identification of human CD93 as the phagocytic Clg receptor (ClqRp)
                                                                                             469 DSALVRHIGTDCDSGKV-----DGGDSGSGEPPPSPTPGSTLTP-PA-VGLVHSG 516
                                                                                                          142 DSALSGQIGIDCDPTQVNEERGTPEDYG--GSGEPPVSPTPGATARPSPAPAGPLHSG 297
                                                                                                                                                                                                  09NPT3; 000274;
15-JUN-2002 (Rel. 41, Created)
15-JUN-2002 (Rel. 41, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
Complement component Clq receptor precursor (Complement component subcomponent, receptor 1) (ClqRp) (ClqR(p)) (Clq/MBL/SPA receptor)
(CD93 antigen) (CDw93).
                                                                                                                                                                                                                                                                                                        Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                        652 AA
                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A., AND PARTIAL SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A., AND VARIANT ALA-318.
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Nature 414:865-871(2001).
                                                                                                                                                                                          STANDARD;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PubMed=11781389;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Nepomuceno R.R., Ruiz S., Park M., Tenner A.J.;
"CigRP is a heavily O-glycosylated cell surface protein involved in the regulation of phagocytic activity.";
J. Immunol. 162:3583-3589[1999].
-!- FUNCTION: Receptor (or element of a larger receptor complex) for Clq, mannose-binding lectin (MBLZ) and pulmonary surfactant protein A (SPA). May mediate the enhancement of phagocytosis in monocytes and macrophages upon interaction with soluble defense
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          minoryces and martophages upon interaction with solution detends of a SubcELDUAR LOCATION: Type I membrane protein.

--- SUBCELDUAR LOCATION: Type I membrane protein.

--- TISSUE SPECIFICITY: Highly expressed in endothehial cells, platelets, cells of myeloid origin, such as monocytes and neutrophils. Not expressed in cells of lymphoid origin.

--- PIM: N = and 0-glycosylated.

--- SIMILARITY: CONTAINS 1 C-TYPE LECTIN FAMILY DOMAIN.

--- SIMILARITY: CONTAINS 5 EGF-LIKE DOMAINS.

--- CAUTION: According to Ref. 5, Clq is not a ligand for ClQRI.

--- CAUTION: According to Ref. 5, Clq is not a ligand for ClQRI.

--- DATABASE: NAME=PROW: NOTE=PROW 3:1-6(2001);

WWW="http://www.ncbi.nlm.nlh.gov/prow/guide/467246456_g.htm".
                                                                                                                                                                                                                                                              McGreal E.P., Ikewaki N., Akatsu H., Morgan B.P., Gasque P.; "Human CigRp is identical with CD93 and the mNI-11 antigen but does
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Receptor; EGF-like domain; Signal; Transmembrane; Glycoprotein;
Repeat; Lectin; Polymorphism.
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                                                                                                              Submitted (APR-2002) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EXTRACELLULAR (POTENTIAL).
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C-TYPE LECTIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Interpro; IPR000152; Asx_hydroxyl.
Interpro; IPR000152; Asx_hydroxyl.
Interpro; IPR001661; EGF_ca.
Interpro; IPR0011801; EGF_ca.
Interpro; IPR0011801; Lectin_C.
Interpro; IPR0011807; Tissue_factor.
Pfam; PF00009; Iecfin_C; 1.
Pfam; PF00009; Iecfin_C; 1.
Pfam; PF00009; Iecfin_C; 1.
SMART; SM00019; EGF_CA; 3.
SMART; SM00019; EGF_CA; 3.
SMART; SM00010; EGF_LNk; 2.
PROSITE; PS00010; ASX_HYDROXYL; 3.
PROSITE; PS00010; C_TYPE_LECTIN_1; PALSE_NEG.
PROSITE; PS000187; EGF_CA; 3.
PROSITE; PS001186; EGF_CA; 3.
                                                                                                                                                                                                                                                                                                                                                                        J. Immunol. 168:5222-5232(2002).
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SEQUENCE FROM N.A.
                                                                                                                                                    [5]
CHARACTERIZATION.
                                     TISSUE-Leukocyte;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PubMed=10092817;
                                                                               Strausberg R.
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                                                                                                                                                                                                                           180 VEP-GAAAAAVSITYGTPFAARGADFQALPVGSSAAVAPLGLQLMCTAPPGAVQGHWARE 238
                                                                                                                                                                                                                                                                       APGAWDCSVENGGCEHACNAIPGAPRCQCPAGAALQADGRSCTASATQSCNDLCEHFCVP 298
                                                                                                                                                                                                                                                                                                                      NPDQPGSYSCMCETGYRLAADQHRCEDVDDCILEPSPCPQRCVNTQGGFECHCYPNYDLV 358
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                                                                                                                                                                                                                                                                                                                                                                                                                                   418 PNSPTVCECPEGFILDEGSVCTDIDECSQGECFTSECRNFPGSYECICGPDTALAGQISK 477
                                                                                                                                               61 TVRSSVAADVISLLLSQSSMDLGP---WIGLQLPQGCDDPVHLGPLRGFQWVTGDNHTSY 117
                                                                                                                                                                                           297
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Jackman R.W., Beeler D.L., Vandewater L., Rosenberg R.D.;
Characterization of a thrombomodulin cDNA reveals structural
almidarity to the low density lipoprotein receptor.";
Proc. Natl. Acad. Sci. U.S.A. 83:884-8838(1986).
-!-FUNCTION: THROMBOMODULN IS A SPECIFIC ENDOTHELIAL CELL RECEPTOR
THAT FORMS A 1:1 STOICHIOMETRIC COMPLEX WITH THROMBIN. THIS
COMPLEX IS RESPONSIBLE FOR THE CONVERSION OF PROTEIN C TO THE
ACTIVATED PROTEIN C (PROTEIN CA). ONCE EVOLVED, PROTEIN CA
SCISSIONS THE ACTIVATED COFACTORS OF THE COAGUATION MECHANISM,
FACTOR VA AND FACTOR VIIIA, AND THEREBY REDUCES THE AMOUNT OF
                                                                                                                                   TVRSSVAADVISLLLNGDG-GVGRRRLWIGLQLPPGCGDPKRLGPLRGFQWVTGDNNTSY 119
                                                                  Gaps
                                                                                       MLGVLVLGALALAGLGFPAPAEPQPGGSQCVEHDCFALYPGPATFLNASQICDGLRGHLM 60
                                                                                                             1 MLGIFFLGVLAPASI.GLSALAKI.QPTGSQCVEHECFALFQGPATFLDASQACQRI.QGHLM 60
                                                                                                                                                                                                                                        VNTRDPEAAHISSTYNTPFGVSGADFQTLPVGSSAAVEPLGLELVCRAPPGTSEGHWAWE
                                                                                                                                                                                                                                                                                    Bos taurus (Bovine).
Sukaryota: Metazoo: Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutharia; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
Bovidae; Bovinae; Bos.
                                                                                                                                                                                                                                                                                                                                   DGECVEPVDPCFRANCEYQCQPLNQTSYLCVCAEGFAPIPHEPHRCQMFCNQTACPADCD
                                                                  8
 (BY
                                           Length 577;
 O-LINKED (GLYCOSAMINOGLYCAN)
                                                                  Indels
                     B20E50B0FE745014 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                         DCDSGKV---DGGDSGSGEPPPSPTPGSTLTPPAVGLVHSG 516
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    tch 65.1%; Score 1899; DB 1; al Similarity 65.5%; Pred. No. 5.2e-118; 341; Conservative 46; Mismatches 126;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          01-JAN-1988 (Rel. 06, Created)
01-JAN-1988 (Rel. 06, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
                                                                                                    Thrombomodulin (Fetomodulin) (TM) (Fragment)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      356 AA.
             SIMILARITY
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                     577 AA;
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494
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P06579;
 CARBOHYD
                      SEQUENCE
                                              Query Match
                                                          t Local
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TRBM_BOVIN
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This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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                                                                                                                                                                   (POTENTIAL).
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-i- SUBCELLULAR LOCATION: Type I membrane protein.
-i- TISSUE SPECIFICITY: ENDOTHELIAL CELLS ARE UNIQUE IN SYNTHESIZING
                                                                                                                                                                                                                                                                                                                                                                                                                        (POTENTIAL)
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                                                                                                                                                                                                                                                                                                                                                                       POTENTIAL. CYTOPLASMIC (POTENTIAL).
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                                   -! - SIMILARITY: CONTAINS 6 EGF-LIKE DOMAINS.
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63.4%; Pred. No. 3.5e
:ive 30; Mismatches
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EGF-LIKE 2.
EGF-LIKE 3,
EGF-LIKE 4.
EGF-LIKE 5.
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Best Local Similarity
Matches 189; Conserv
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                        THROMBOMODULIN
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                                          1 MLGVLVLGALALAGLGFPAPAEPQPGGSQCVEHDCFALYPGPATFLNASQICDGLRGHLM 60
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                                                   RWARLDINGAPLCGPLCVAVSAAEATVPSEPIWEEQOCEVKADGFLCEFHFPATCRPLAV
                                                                                                                                                                            TQASCECPEGYILDDGFICTDIDECENGGFCSGVCHNLPGTFECICGPDSALVRHIGTDC
                                                                                 TVRSSVAADVISLLLNGDGGVGRRRLWIGLQLPPGCGDPKRLGPLRGFQWVTGDNNTSYS
                                                                                                                                                                  EPGAAAAAVSITYGTPFAARGADFQALPVGSSAAVAPLGLQLMCTAPPGAVQGHWAREAP
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MEDLINE-89008498; PubMed-2844823;
Dittman W.A., Fundada T., Sadler J.E., Majerus P.W.;
The structure and function of mouse thrombomodulin. Phorbol
Length 575;
                      1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
MEDLINE-89128454; PubMed=2536925;
Dittman W.A., Majerus P.W.;
"Sequence of a cDNA for mouse thrombomodulin and c predicted mouse and human amino acid sequences.";
Nucleic Acids Res. 17:802-802(1989).
 Score 2912; DB 1;
Pred. No. 1.3e-184;
0; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-APR-1990 (Rel. 14, Created)
01-APR-1990 (Rel. 14, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
Thrombomodulin precursor (Fetomodulin) (TM).
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  99.98;
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                       515; Conservative
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             Similarity
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              Best Local
Matches 51
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                                                                                                                                                                                                                                                                                                                                     PIR; $08488; $08488.

PIR; $08488; $08488.

PIR; $08488; $08488.

RISP: POT 2013.

RISP: POT 2014; IECT.

RISP: POT 2013.

RICEPTO; IPRO0152; Asx_hydroxyl.

InterPro; IPR001881; EGF_cla.

RICEPTO; IPR001891; Thrmbomoduln.

Pfam; PP00008; EGF; 4.

RICEPTO; IPR00191; Thrmbomoduln.

Pfam; PP00008; EGF; 4.

RINTS; PR00907; THRMBOMODULN.

SNART; SM0001; EGF_like; 5.

ROSITE; PS00010; EGF_like; 5.

PROSITE; PS00010; EGF_like; 5.

ROSITE; PS001186; EGF_l; FALSE_NEG.

PROSITE; PS01186; EGF_l; FALSE_NEG.

ROSITE; PS01186; EGF_l; FALSE_NEG.

ROSITE; PS01186; EGF_l; FALSE_NEG.

ROSITE; PS01181; EGF_CLY: 1.

RW Endothelial cell; Receptor; Blood coagulation; Repeat; Transmembrane;

RW Glycoprotein; Signal; EGF-like domain.

RW Glycoprotein; Signal; EGF-like domain.
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EGF-LIKE 2.
EGF-LIKE 3.
EGF-LIKE 4.
EGF-LIKE 4.
EGF-LIKE 5.
EGF-LIKE 6.
BGF-LIKE 6.
BGF-LIKE 6.
BY SIMILARITY.
                                                           THROMBIN GENERATED.
--- SUBCELLULAR LOCATION: Type I membrane protein.
--- TISSUE SPECIFICITY: ENDOPHELIAL CELLS ARE UNIQUE IN SYNTHESIZING THROMBOMODULIN (BY SIMILARITY).
--- SIMILARITY: CONTAINS 6 EGF-LIKE DOMAINS.
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BY SIM
ACTIVATED PROTEIN C (PROTEIN CA). ONCE EVOLVED, PRÓTEIN CA SCISSIONS THE ACTIVATED COFACTORS OF THE COAGULATION MECHANISM FACTOR VA AND FACTOR VIIIA, AND THEREBY REDUCES THE AMOUNT OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EXTRACELLULAR (POTENTIAL)
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Blington A.C., Frankland J.A., Fraser A., French L., Garner P., Grafham D.V., Griffiths C., Griffiths M.N.D., Gwilliam R., Hall R.E., Hammond S., Harley J.L., Heath P.D., Ho S., Holden J.L., Howden P.J., Huckle E., Hunt A.R., Hunt S.E., Jekosch K., Johnson C.M., Johnson D., Kay M.P., Kimberley A.M., King A., Knights A., Laird G.K., Lawlor S., Lehvaslaiho M.H., Leversha M.A., Lloyd C., Lloyd D.M., Lovell J.D., Marsh V.L., Martin S.L., McConnachie L.J., McLay K., McMurray A.A., Milne S.A., Mistry D., Moore M.J.F., Mullikin J.C., Nickerson T., Oliver K., Parker A., Parel R., Pearce T.A.V., Peck A.I., Nickerson T., A. Millimore B.J.C.T., Prathalingam S.R., Plumb R.W., Ramsay H., Stuce C.D., Smith M.L., Scott C.E., Schra H.K., Showheen R., Sins S., Swon R.M., Sycamore N., Taylor R., Tee L., Thomas D.W., Thorpe A., Swann R.M., Sycamore N., Taylor R., Tee L., Thomas D.W., Thorpe A., Tromans A.C., Vaudin M., Wall M., Wallis J.M., Whitehead S.L., Whitteker P., Willey D.L., Williams L., Williams S.A., Willand L., West, W., Beck S., Milling L., Wray P.W., Hubbard T., Durbin R.M., Bentley D.R., Beck S.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE-96007474; PubMed-7559494;
Adler M., Seto M.H., Nitecki D.E., Lin J.H., Light D.R., Morser J.;
Adler tw., Seto M.H., Nitecki D.E., Lin J.H., Light D.R., Morser J.;
"The structure of a 19-residue fragment from the C-loop of the fourth epidermal growth factor-like domain of thrombomodulin.";
J. Biol. Chem. 270:23366-23372(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             "Identification of the predominant glycosaminoglycan-attachment site in soluble recombinant human thrombomodulin: potential regulation of Eunctionality by glycosyltransferase competition for serine474."; Blochem. J. 295:131-140(1993).
                                                                                                                                                                                                                                                                                                                                                                                               sequence and comparative analysis of human chromosome 20.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE-96276211; PubMed-8745396; Tabbal R., Komives E.A., N1 F.; "Structural resiliency of an EGF-like subdomain bound to its target protein, thrombin.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                          CARBOHYDRATE-LINKAGE SITE SER-492, AND MUTAGENESIS.
MEDLINE-94029900: Pubmed-8216207;
Gerleitz B., Hassell T., Vlahos C.J., Parkinson J.F., Bang N.U.,
Grinnell B.W.;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STRUCTURE BY NMR OF 364-407.
MEDLINE-96100636; PubMed-8528067;
Meininger D.P., Hunter M.J., Komives E.A.;
"Synthesis, activity, and preliminary structure of the fourth EGF-like domain of thrombomodulin.";
Protein Sci. 4:1683-1695(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE-95034791; PubMed-7947766;
Szinivasan J., Hu S., Hrabal R., Zhu Y., Komives E.A., Ni F.;
"Thrombin-bound structure of an EGF subdomain from human
thrombomodulin determined by transferred nuclear Overhauser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ochlin A.-K., Marlar R.A.; "The first mutation identified in the thrombomodulin gene in 45-year-old man presenting with thromboembolic disease."; Blood 85:330-336(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             VARIANT TED Y-486, AND VARIANTS T-43; A-79; S-495 AND L-501
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This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license afterement (see http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -!- POLYMORPHISM: VARIATIONS IN THBD ARE ASSOCIATED WITH AN INCREASED RISK OF DEVELOPING THROMBOEMBOLIC DISEASES (TED).
-!- DISEASE: DEFECTS IN THBD COULD BE THE CAUSE OF INHERITED TED, ALSO CALLED INHERITED THROMBOPHILIA. PATIENTS WITH TED HAVE DEFECTS OF THE HARMOFOETIC SYSTEM WHICH CREATES A TENDENCY TO THE PATHOGENESIS OF VARIOUS CARDIOARSULAR DISORDERS.
-!- SIMILARITY: CONTAINS 6 EGF-LIKE DOMAINS.
-!- DATABASE: NAME-PROW; NOTE-CD guide CD141 entry; WWW-"http://www.ncbi.nlm.nlh.gov/prow/cd/cd141.htm".
                                                                                                                                                                                                                                                     Doggen C.J.M., Kunz G., Rosendaal F.R., Lane D.A., Vos H.L., Stubbs P.J., Manger Cats V., Ireland H.; A mitchich in the thrombomodulin gene, 127G to A coding for Ala25Thr, and the risk of mycardial infarction in men."; Thromb. Haemost. 80:748(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CITCULATION 103:1386-1389(2001).

-I- FUNCTION: THROMEDMODULIN IS A SPECIFIC ENDOTHELIAL CELL RECEPTOR THAT FORMS A 1:1 STOICHIOMETRIC COMPLEX WITH THROMEIN. THIS COMPLEX IS RESPONSIBLE FOR THE CONVENSION OF PROTEIN C TO THE ACTIVATED PROTEIN C (PROTEIN CA). ONCE EVOLVED, PROTEIN C A SCISSIONS THE ACTIVATED COPACTORS OF THE COAGULATION MECHANISM, FACTOR VA AND FACTOR VIIIA, AND THEREBY REDUCES THE AMOUNT OF THROMEIN GENERATED.

-I- SUBCELLIGIAR LOCATION: Type I membrane protein.

-I- TISSUE SPECIFICITY: ENDOTHELIAL CELLS ARE UNIQUE IN SYNTHESIZING THROMEOMODULIN.
                                                                                                                           Norlund L., Holm J., Zoller B., Oehlin A.-K.;
"A common thrombomodulin amino acid dimorphism is associated with myocardial infarction.";
                                                                                                                                                                                                                                                                                                                                                                                                                                              "Thrombomodulin Ala455Val polymorphism and risk of coronary heart
             Ochlin A.-K., Norlund L., Marlar R.A.; "Thrombomodulin gene variations and thromboembolic disease."; Thromb. Haemost. 78:396-400(1997).
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                                                                                                                                                                                 Thromb. Haemost. 77:248-251(1997).
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MEDLINE=99057299; PubMed=9843165;
                                                                                          VARIANT VAL-473.
MEDLINE=97206518; Pubmed=9157575;
MEDLINE=97341986; PubMed=9198186;
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R;Rowen, L: Mahalras, G.; Qin, S.; Ahearn, M.E.; Dankers, C.; Lasky, S.; Loretz, C.; Squamitted to the EMBL Data Library, October 1997
A;Bescription: Sequence of the mouse major histocompatibility locus class III region.
A;Recession: T09095
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Recidues: 1-1964
A;Residues: 1-1964
C;Genetics:
A;Gene: notch4
A;Map position: 17
A;Introns: 22/1; 49/2; 148/1; 264/1; 305/1; 384/1; 436/1; 501/1; 539/1; 577/1; 618/1; 67
C;Superfamily; unassigned EGF-related proteins; EGF homology
C;Keywords: receptor; signal transduction
F;514-545/Domain: EGF homology <EGF>
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E;942-978/Domain: EGF homology <egf> Query Match 12.2%; Score 357; DB 2; Length 1221; Best Local Similarity 29.5%; Pred. No. 3e-14; Indels 114; Gaps 27; Matches 123; Conservative 39; Mismatches 141; Indels 114; Gaps 27; QY 154 EEQQCEVKAD-GFLCEFHFPATCRPLAV</egf>	283 SATQSCNDLCEHFCVPNPDQPGSYSCMCETGYRLAADQHRCEDVDDCIL

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R:Pereira, L.V.; D'Alessio, M.; Ramirez, F.; Lynch, J.; Sykes, B.; Pangilinan, T.; Bonad Hum. Mol. Genet. 2, 961-968, 1993 as equence coding for fibrillin, the defective gene FA; Rife encome number: 154355; MUID:93372866; PMID:8364578	QY 399 HEPHRCOMECNQTAC : DD 1500 NGTHMCSQH	PADCDPN [ADC-KN
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Nature 352, 334-337, 1991 A;Title: Partial sequence of a candidate gene for the Marfan syndrome. A;Reference number: 817064; MUID:91304568; PMID:1852207	Db 1611 RSGGNCTDVNECLD	1 11 TCISGN
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Science 259, 000-003, 1593 A:Title: The skipping of constitutive exons in vivo induced by nonsense mutations. A:Reference number: 159574; MUID:93157831; PMID:8430317	C, Accession: A55624 R; Yin, W.; Smiley, E.; Germ	miller
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A;Accession: 562111 A;Molecule type: protein A;Residues: 1166-1176,'X',1178-1180,'D',1182-1185 <lbe2></lbe2>	Query Match Best Local Similarity Matches 117; Conserva	12.4%; 29.4%; tive
K;Maddox, N.K.; Safal, L.T.; Reene, D.K.; Glanville, K.W. J. Biol. Chem. 264, 21381-21385, 1989 A;Title: Connective tissue microfibrils. Isolation and characterization of three large E	Qy 212	LMCTAI
A/MELEGIENCE HUMIDEL: A34196; MULD:300/0246; FMLD:2312233	7017 000	
A;Molecular Type: Protein A;Mosodues: 565-575;1890-1892, 'I',1894-1900 <mad> C:Comment: Fibrillin is a major component of elastin-associated microfibrils.</mad>	Db 1222 SCOPGFALMPDQRSCT	WOWING.
C;Genetics: A;Genetics: A;Genetics:FBN1 A;Angenetics:Cnb,137115. Outu,134707. Outu,154700	QY 317 AADQHRCEDVDDCILEPSPC-F	PSPC-1
A; LTOSS-TETERICES: GDB:121.113; OMIM:134/97; OMIM:134/00 A; Map position: 15221.1-1521.1 A: Introns: 2236/1: 2258/1: 2297/1	DD 1272 SEDMKTCV	PNICL
C;Superfamily: fibrillin 1; EGF homology C;Reywords: alternative splicing; calcium binding; extracellular matrix; glycoprotein; M	ΟŅ	LCVCAL
F;1-3002/Product: fibrillin (5'-region exon A splice form) (fragment) #status predicted F;132-3002/Product: fibrillin (5'-region exon C splice form) #status predicted <matc></matc>	Db 1331	KCSCSI
F;1332-1367/Domain: EGF homology <egf> F;1457-1492/Domain: EGF homology <egf2> F;2262-2395/Domain: EGF homology <egf1></egf1></egf2></egf>	Qy 421 TQASCECPEGYILDDGFICT 	DGFIC DGFIC
Query Match 12.4%; Score 363; DB 2; Length 3002;	Qy 451CS	GVCH
BEST LOCAL SANITATITY 30.84; FIGO. NO. 2.86-14; Matches 111; Conservative 22; Mismatches 105; Indels 122; Gaps 20;	Db 1442 KACEDIDECSLPNICVFGTCH	FGTCH
Qy 244 DCSVENGGCEHACNAIPGAPRCQCPAGAALQADGRSCTASATQSCNDLCEHFCVPNP 300	Qy 485 VDGGDSGSGEPPPSPTPGS-	SPTPGS
301DDDGGYCUMERGYBLAADAHRCEDVINGTIBGGDC-DORCUMPGGGFFCHCVD		
1) (+ 7 c v
QY 354 NYDLVDGECVEPVDPCFRANCEYQCQPLNQT-SYLCVCAEGFAPIP 398	C; Species: Homo sapiens (man) C; Date: 04-Feb-2000 #sequence_re C; Accession: T46488	ian)

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er, J.; Sanguineti, C.; Lawton, T.; Pereira, L.; Ramire
1995
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%; Pred. No. 3.5e-14;
26; Mismatches 127; Indels 128; Gaps 21;
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                                                                            OGRACEDIDECSLPNICVFGTCHNLPGLFECICGPDSALV 473
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NNTQAS - CECPEGYILDDGFICTDIDEC EN----- 447
                                                                                                                                                                                                                                                                                                                       mouse)
evision 23-Mar-1995 #text_change 02-Aug-2002
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                                                                                                                                                                                    IIII | II | SINCVN------TPGSYICDCPPDFELNPTRVGCV 1658
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                                                                                                                                                           KVDGGDSGSGEPPPSPTPGS-----TLTPPAVGLV 513
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NID:9575509; PIDN:AAA56840.1; PID:9575510
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preliminary; nucleic acid sequence not shown; not compared with conceptual
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A,Molecule type: mRNA
A,Residues: 1.37,"","339-1029 <COR>
A,Cross-references: GB:X63556
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C; Species: Homo sapiens (man)
C; Date: 09-Sep-1994 #sequence_revision 09-Sep-1994 #text_change 02-Aug-2002
C; Date: 09-Sep-1994 #sequence_revision 09-Sep-1994 #text_change 02-Aug-2002
C; Accession: A54105; S31101
R; Zhang, H.; Apfelroth, S.D.; Hu, W.; Davis, E.C.; Sanguineti, C.; Bonadio, J.; Mecham, J. Cell Biol. 124, 855-863, 1994
J; Cell Biol. 124, 855-863, 1994
A; Title: Structure and expression of fibrillin-2, a novel microfibrillar component prefe A; Reference number: A54105; WUID: 94165150; PMID: 8120105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                C;Species: Bos primigenius taurus (cattle)
C;Species: Bos primigenius taurus (cattle)
C;Oaccesion: A55567
R;Tilstra, D.J; Li, L.; Potter, K.A.; Womack, J.; Byers, P.H.
Genomics 23, 480-485, 1994
A;Title: Sequence of the coding region of the bovine fibrillin cDNA and localization to A;Reference number: A55567; MUID:95137597; PMID:7835900
A;Accession: A55567
A;Accession: A55567
A;Accession: A5567
A;Accession: A567
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              354 NYDLVDGE--CVEPVDPC--FRANCEYQCQPLNQT-SYLCVCAEGFA-----PIP 398
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                                                                                                                                                                                                                                                                                                                                793 RQRCMDGFLQDPEGNCVDINECTSLSEPCRPGFSCINTVGSYTCQRNPLI---CARGYHA 849
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683 CKDNGPCKQVC---STVGGSAICSCFPGYAIMADGVSCEDINECVTDLHTCSRGEHCVNT 739
                                                                                                                                                              740 LGSFHCYKALTCEPGYALKDGEC-EDVDEC--AMGTHTCOP----GFLCQNTKGSFYCQA 792
                                                                                                                                                                                                                                                     390 ---CAEGFAPIPH-----EPHRCQMFCNQTACPADCDPNTQASCECPEGY-I 432
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; Pred. No. 1.5e-14;
26; Mismatches 109; Indels 106;
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31.5%;
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Best Local Similarity 31.5%
Matches 111; Conservative
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A; Molecule type: mRNA
A; Residues: 1-2918 acada sequence not snown; not compared with conceptual
A; Molecule type: mRNA
A; Residues: 1-2918 acada
A; Cross-references: GB:003272
B; Lee, B.; Godfrey, M.; Vitale, E.; Hori, H.; Mattel, M.G.; Sarfarazi, M.; Tsipouras,
Nature 352, 330-334, 1991
A; Title: Linkage of Marfan syndrome and a phenotypically related disorder to two diff
A; Reference number: 317062; MUID:91304567; PMID:1832206
A; Recession: S17063
A; Molecule type: mRNA
A; Residues: 752-1489, 1791, GS, 1794-1796, OLI', 1922-1923, 'LD', 1926, 'P', 1928 acada
A; Molecule type: mRNA
A; Residues: 752-1489, 1791, GS, '1794-1796, 'QLI', 1922-1923, 'LD', 1926, 'P',
A; Residues: 752-1407, 'R', 1409-1489, 1791, 'GS', 1794-1796, 'QLI', 1922-1923, 'LD', 1926, 'P',
A; Accession: S31101
A; Molecule type: mRNA
A; Residues: 752-1407, 'R', 1409-1489, 1791, 'GS', 1794-1796, 'QLI', 1922-1923, 'LD', 1926, 'P',
A; Accession: S31101
A; Molecule type: mRNA
A; Residues: 752-1407, 'R', 1409-1489, 1791, 'GS', 1794-1796, 'QLI', 1922-1923, 'LD', 1926, 'P',
A; Cross-references: GDB:128122; OMIM:121050
A; Map position: 5q23-5q31
C; Superfamily: fibrillin 1; EGF homology
C; Reywords: extracellular protein
F; 1-29/Domain: signal sequence #status predicted acada
F; 1245-1280/Domain: EGF homology acade
F; 1245-1280/Domain: EGF homology acade
F; 1270-2013/Domain: EGF homology acade
F; 1285-2018 acade
F; 1285-201
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C;Date: 02-Jun. 1995 #stext_change 02-Aug-2002
C;Date: 02-Jun. 1995 #sequence_revision 25-Apr-1997 #text_change 02-Aug-2002
C;Accession: A47221; I54955; S17064; I59974; S17062; S62111; A34198
R;Corson, G.M.; Chalberg, S.C.; Dietz, H.C.; Charbonneau, N.L.; Sakai, L.Y.
Genomics 17, 476-484, 1993
A;Title: Fibrillin binds calcium and is coded by cDNAs that reveal a multidomain stru
A;Reference number: A47221; MUID:94010947; PMID:7691719
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1354 GYSVKKGTTGCTD-VDECEIGAHNCDMHASCLNIPGSFKCSCREGW--IGNGIKCIDLDE 1410
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           302 -----QPGSYSCMCETGYRLAADQHRCEDVDDCILEPSPCP-QRCVNTQGGFECHCYP 353
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        354 NYDLVDGE--CVEPVDPC--FRANCEYQCQPLN-QTSYLCVCAEGFAPIPH-----EPHR 403
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               404 COMFCNQTACPADCDPNTQAS -- CECPEGYILDDGFICTDIDE ------ CENG ----- 448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        244 DCSVENGGCEHACNAIPGAPRCQCPAGAALQADGRSCTASATQSCNDLCEHFCVPNPD-- 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 82;
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C:Species: Rattus norvegicus (Norway rat) C:Date: 20-Sep-1999 #sequence_revision 20-Sep-1999 #text_change 21-Jul-2000	
C;Accession: T13954 R;Nakayama, M.; Nakajima, D.; Nagase, T.; Nomura, N.; Seki, N.; Ohara, O. Genomics 51, 27-34, 1998	Qy 354 NYDLVDGECVEPVDPC
A: Reference number: 214126; MUID:98360089; PMID:9693030	1348
A.Accession: T13954 A.Status: preliminary; translated from GB/EMBL/DDBJ A.Molecule type: mRNA	Qy 399 HEPHRCQMFCNQTACPADCD : : : Db 1407 NGTHQCSINAQC-
A; Residues: 1-1574 <nak> A; Residues: 1-1574 <nak> A; Cross-references: EMBL: AB011532; NID:g3449293; PIDN: BAA32462.1; PID:g3449294 A; Experimental source: strain Sprague-Dawley; brain C; Genetics:</nak></nak>	Qy 449GF 1 Db 1458 CLNVPGAYRCECEMGFTPAS
A; Gene: MEGF6	Qy 474 RHIGTDCD 481
Query Match 14.2%; Score 414; DB 2; Length 1574; Best Local Similarity 34.1%; Pred. No. 1.3e-17; Matches 104; Conservative 28; Mismatches 101; Indels 72; Gaps 17;	Db 1518 RTGGNCTDID 1527
Qy 224 CTAPPG-AVQGHWAREAPGAWDCSVENGGCEHACNAIPGAPRCQCPAGAALQADGRSCTA 282	RESULT 7 A55184 fibulin-2 precursor - human
283	N;Alternate names: protein DAR C;Species: Homo sapiens (man) C;Date: 27-Jan-1995 Asequence_
	R; Zhang, R.Z.; Pan, T.C.; Zhan Genomics 22, 425-430, 1994
Db 264 BLRGLAHCGCHPGYQLAADRKTCEDVDECALGLAQCAHGCLNTQGSFKCVCHAGYELGAD 323	A; Illie: Fibulin 2 (Fbin2). ind A; Reference number: A55184; MU A: Accession: A55184
Qy 360 G-ECVEPVDPCFRANCEYQCQPLNQTSYLCVCAEGFAPIPHEPHRCQMFC 408 : :	A;Status: preliminary A;Molecule type: mRNA A;Residues: 1-1184 <zha></zha>
409NOTACPADCDPNTQASCECPEGYILD-DGFICTDIDECENG-GFCSGVCHNLPGT	A;Cross-references: GB:X82494; R;Wambutt, R.; Heubner, D.; Me
378 D	submitted to the Protein Seque A; Reference number: 216471
462 FECIC 4	A; Molecule type: mRNA A; Molecule type: mRNA A; Residues: 656-719, 'QDECLMGAR
Db 437 FQCFC 441	A;Cross-reletences: Embi.alous A;Experimental source: adult u C;Genetics:
RESULT 6 A57278 fibrillin-2 precursor - mouse C;Species: Mus musculus (house mouse) C;Date: 23-Feb-1996 #secuence revision 23-Feb-1996 #text_change 02-Aug-2002	A;Gene: GDB:FBLN2 A;Cross-references: GDB:293037 A;Map position: 3p25-3p24 A;Note: DKEZp586A1519.1 C;Superfamily: fibulin-2; EGF
C;Accession: A57278 R;Zhang, H.; Hu, W.; Ramirez, F. J. Cell Biol. 129, 1165-1176, 1995 A;Title: Developmental expression of fibrillin genes suggests heterogeneity of extracell	C; Keywords: alternative splic: F;1-27/Domain: signal sequence F;28-1184/Product: fibulin-2 F;905-941/Domain: EGF homolog;
A; Reference number: A57278; MUID:95263670; PMID:7744963 A; Accession: A57278 A; Status: preliminary A; Molecule type: DNA	Query Match Best Local Similarity 30.0 Matches 119; Conservative
A; Residues: 1-2907 <zha>. A; Cross-references: GB:L39790; NID:9762830; PIDN:AAA74908.1; PID:9762831 C; Superfamily: fibrilin 1; EGF homology</zha>	154
F;1239-1274/Domain: EGF homology <egf1> F;2488-2523/Domain: EGF homology <egf></egf></egf1>	Db 531 EGGSCESNPNLGIPCN-HV Ov 202 ADFQALPVGSSAAVAP
Query Match 12.8%; Score 373; DB 2; Length 2907; Best Local Similarity 32.9%; Pred. No. 6.8e-15; Matches 102; Conservative 24; Mismatches 92; Indels 92; Gaps 18;	583
244 DCSVENGGCEHACNAIPGAPRCQCPAGAALQADGRSCTASATOS	623
Db 1238 ECMIMNGGCDTQCTNSEGSYECSCSEGYALMPDGRSCADIDECENNPDIC 128/ Qy 302QPGSYSCMCETGYRLAADQHRCEDVDDCILEPSPCP-QRCVNTQGGFECHCYP 353	Qy 288 CNDLCEHFCVPNPDQPG

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AHDCSRRQFCVNTLGSFYCVNHTVLCADGYILNAHRKCVD',720-853,'T',855
50095
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          human cDNA sequence, mRNA expression, and mapping of the MUID:95104855; PMID:7806230
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                                                                                 SSSRSCQDIDECSFQNICVFGTCNILPGMFECICGDDSALV 473
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PGDDQDECLLLPGEL------CQHLCIN 622
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ||:|
|GRTCRPEGHPPQPEAPQEPALKSEFSQVASNTIPLPLPQPNT 682
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- VNTPGSYRCACSEGF-TGDGFTCSDVDECAENTNLCENGQ 1457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FPATC----RPLAV-----EPGAAAAVSITYGTPFAARG 201
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                                                                                                                                             448
                                                            -FRANCEYQCQPLN-QTSYLCVCAEGFA------PIP 398
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 4; NID:9575232; PIDN:CAA57876.1; PID:9575233
Mewes, H.W.; Gassenhuber, J.; Wiemann, S.
uence Database, March 1999
                                                                                                                                           DPNTQAS -- CECPEGYILDDGFICTDIDE-----CENG-
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0.0%; Pred. No. 6.7e-15;
e 29; Mismatches 124; Indels 125;
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clop; extracellular matrix
ce #status predicted <SIG>
    protein #status predicted <MAT>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             uterus; clone DKFZp586A1519
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           37; OMIM:135821
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Matches 341; Conservative 46; Mismatches 126; Indels 8; Gaps 4;	
QY 1 MLGVLVLGALALAGLGFPAPAEPQPGGSQCVEHDCFALYPGPATFLNASQICDGLRGHLM 60	349 CHCYPNYDLVDGECVEPVDPCFRANCEYQCQPLNQTSYLCVCAEGFAPIPHEPHRCQMFC 40
	123 CHCDTGYELVDGECVDPVDPCFDNNCEYQCQPVGRSEHKCICAEGFAPVPGAPHKCQMFC
Qy 61 TVRSSVAADVISLLLNGDG-GVGRRINIGLQLPPGCGDPRILGPLRGFQWVTGDNNTSY 119 	QY 409 NQIACEACCENTIQASCECEGESILLEDGEICTILLEGENGSECSOVCHNESTELICGE 408 : Db 183 NQISCPADCDPHYPICRCPEGYIIDEGSTCTDINECDI-NICPGQCHNLPGTYECICGP 241
120 SRWARLDLNGAPLCGPLCVAVSABATVPSEPTWEEQOCEVKADGFLCEFHFPATCRPLA 1111 :	Qy 469 DSALVRHIGTDCDSGKVDGGDSGSGEPPPSPTPGSTLTP-PA-VGLVHSG 516
QY 180 VEP-GAAAAAVSITYGTPFAARGADFQALPVGSSAAVAPLGLQLMCTAPPGAVQGHWARE 238	RESULT 4 T27283 hypothetical protein Y64G10A.f - Caenorhabditis elegans
QY 239 APGAWDCSVENGGCEHACNAIPGAPRCQCPAGAALQADGRSCTASATQSCNDLCEHFCVP 298	C;Species: Caenorhabditis elegans C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 15-Oct-1999 C;Accession: T27283 R;Ainscough, R.
QY 299 NPDQPGSYSCMCETGYRLAADQHRCEDVDDCILEPSPCPQRCVNTQGGFECHCYPNYDLV 358 :	submitted to the EMBL Data Library, September 1999 A; Reference number: 220336 A; Accession: T27283 A; Status: preliminary; translated from GB/EMBL/DDBJ
QY 359 DGECVEPUDPCFRANCEYQCQPLNQTSYLCVCAEGFAPIPHEPHRCQMFCNQTACPADCD 418	A; MOLECULE Type: UNA A; Residues: 1-1620 «ML> A; Cross-references: EMBL: AL110498; NID:e1542303; PIDN:CAB54471.1; CESP:Y64G10A.f A; Experimental source: clone Y64G10A
QY 419 PNTQASCECPEGYILDDGFICTDIDECENGGFCSGVCHNLPGTFECICGPDSALVRHIGT 478	C;Genetics: A;Gene: CESP:Y64G10A.f A;Introns: 77/1; 116/1; 198/1; 282/1; 365/1; 425/1; 466/1; 548/1; 559/1; 601/1; 625/1
DCDSGKVDGGDSGSGEPPSPTPGSTLTPPAVGLVHSG 516	Query Match 14.3%; Score 416; DB 2; Length 1620; Best Local Similarity 27.0%; Pred. No. 1e-17; Matches 128; Conservative 39; Mismatches 175; Indels 132; Gaps 20;
SULF 3	QY 119 YSRWARLDLNGAPLCGPLCVAVSAAEATVPSEPIWEEQQCEVKADGFLCEF 169
thrombomodulin - bovine (fragment) C;Species: Bos primigenius taurus (cattle) C;Date: 30-Jun-1988 #sequence_revision 30-Jun-1988 #text_change 16-Jul-1999	QY 170 HFPATCRPLAVEPGAAAAVSITYGTPFAARGADFQALPVGSSAAVAPLGLQLMCTAPPG 229 110 D- 116 D-ANECMANNGGCEHECVN-TIGTYYCRCWPG 145
C, Accession: A2918 R;Jackman, R.W. ; Beeler, D.L.; VanDewater, L.; Rosenberg, R.D. Proc. Natl. Acad. Sci. U.S.A. 83, 8834-8838, 1986 A;Title: Characterization of a thrombomodulin cDNA reveals structural similarity to the	QY 230 AVQGHWAREAPGAWDCSVENGGCEHACNAIPGAPRCQCPAGAALQADGRSCTASATQSC- 288
	QY 289NDLCEHFCVPNPDQPGSYSCMCETGYRLAADQHRCEDVDDCILEPSPCPQRCVNTQGG 346
A;CrOSS-TELETERGES: GS:MALBO3/; NID:glo3/02; FIDN:AAA3U/83.1; FID:glo3/03 C:Superfamily: thrombomodulin: C:Ftype lectin homology; EGF homology C;Keywords: transmembrane protein F;21-56/Domain: EGF homology <egi></egi>	Qy 347 FECHCYPNYDL-VDGECVEPVDPCFRAN-CEYQCQPLNQTSXLCVCAEGFAPIPHEPHRC 404
F; 64 9 / 700main: EgF homology <eg2> F; 143-178 / 700main: EGF homology <eg3> F; 143-178 / 700main: EGF homology <eg4> F; 182-213 / 700main: EGF homology <eg5> F; 182-213 / 700main: EGF homology <eg5></eg5></eg5></eg4></eg3></eg2>	QY 405 QMF4NQTACPADCDPNTQASCECPEGYIL
F;219-253/JOHN41H: EGF HOHNO1099 <eggo 1092.5;="" 189.="" 2;="" 3.0.="" 356;="" 37.5%;="" 4.1e-59;="" 6.<="" 63.4%;="" best="" conservative="" db="" length="" local="" match="" matches="" mismatches="" no.="" pred.="" query="" score="" similarity="" td=""><td>QY 434</td></eggo>	QY 434
GAVQGHWAREAPGAWDCSVENGGCEHACNAIPGAPRCQCPAGAALQADGRSCTASATQSC 288 : :	Qy 456 HNLPGTFECICGPDSALVRHIGTDCDSGKVDGGDSGSGEP 495
QY 289 NDLCEHFCVPNPDQPGSYSCMCETGYRLAADQHRCEDVDDCILEPSPCPQRCVNTQGGFE 348 : : : : :	RESULT 5 T13954 MEGF6 protein - rat

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N'Alternate names: fetomodulin
C;Species: Mus musculus (house mouse)
C;Date: 17-Apr-1993 **sequence_revision 17-Apr-1993 **text_change 16-Jul-1999
C;Accession: 508488; A22001; A60501
R;Dittman, W.A.; Majerus, P.W.
Nucleic Acids Res. 17, 802, 1989
A;Title: Sequence of a CDNA for mouse thrombomodulin and comparison of the predicted A;Reference number: 508488; MuID:89128454; PMID:2536925
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          241 GAWDCSVENGGCEHACNAIPGAPRCQCPAGAALQADGRSCTASATQSCNDLCEHFCVPNP 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          361 ECVEPVDPCFRANCEYQCQPLNQTSYLCVCAEGFAPIPHEPHRCQMFCNQTACPADCDPN 420
                                                            EPGAAAAAVSITYGTPFAARGADFQALPVGSSAAVAPLGLQLMCTAPPGAVQGHWAREAP
                                                                                                                                                                                                                                   181 EPGAAAAVSITYGTPFAARGADFQALPVGSSAAVAPLGLQLMCTAPPGAVQGHWAREAP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GAWDCSVENGGCEHACNAIPGAPRCQCPAGAALQADGRSCTASATQSCNDLCEHFCVPNP
                                                                                                                                                                                                                                                                                                                                                                                                                                       DQPGSYSCMCETGYRLAADQHRCEDVDDCILEPSPCPQRCVNTQGGFECHCYPNYDLVDG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     421 TQASCECPEGYILDDGFICTDIDECENGGFCSGVCHNLPGTFECICGPDSALVRHIGTDC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         481 DSGKVDGGDSGSGEPPPSPTPGSTLTPPAVGLVHSG 516
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A; Reference number: A67369; PDB:12A0
A; Contents: annotation; Conformation and disulfide bond assignments by (1)H-NMR, residue
R; Tulinsky, A.; Mathews, I.I.
submitted to the Brookhaven Protein Data Bank, August 1994
A; Reference number: A52804; PDB:14LT
A; Contents: annotation; X-ray crystallography, 3.0 angstroms, residues 426-442
R; Hrabal, R.; Komives, E.A.; Ni, F.
Submitted to the Brookhaven Protein Data Bank, November 1995
A; Contents: annotation; conformation by (1)H-NMR, residues 427-444
R; Hrabal, R.; Komives, E.A.; Ni, F.
Protein Sci. 5, 195-203, 1996
A; Contents: annotation; conformation by (1)H-NMR, residues 427-444
R; Hrabal, R.; Komives, E.A.; Ni, F.
Protein Sci. 5, 195-203, 1996
A; Contents: annotation; conformation by (1)H-NMR, Reference number: A58595; MUID:9627621; PMID:8745396
A; Contents: annotation; conformation by (1)H-NMR, R; Reference number: A58595; MUID:9627621; PMID:8745396
A; Contents: annotation; conformation by (1)H-NMR
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F;517-539/Domain: transmembrane #status predicted <INT>
F;540-575/Domain: intracellular #status predicted <INT>
F;540-575/Domain: intracellular #status predicted <INT>
F;540-575/Domain: intracellular #status predicted 
F;741,225,411,504/Binding site: carbohydrate (fnn) (covalent) #status predicted 
F;245-256,252-265,267-280,288-296,297-308,310-323,329-340,336-349,351-362,369-378,374-38 
F;344,98/Binding site: carbohydrate (Ser) (covalent) #status experiment 
F;490,492/Binding site: chondroitin sulfate (Ser) (covalent) (partial) #status experiment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Pathway: blood coagulation moderation
Note: the membrane-bound form is located on the endothelium luminal surface of arterie
Note: thrombin complexed with the membrane-bound form is subject to endocytosis
Superfamily: thrombomodulin; C-type lectin homology, EGF homology
Keywords: anticoagulant; beta-hydroxyasparagine; beta-hydroxyaspartic acid; blood coag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A; Description: inhibits thrombin activation of fibrinogen; cofactor for thrombin activat
                                                                                                                                                        A; Molecule type: protein
A; Residues: 475-491,'X',493-494 <GER>
A; Note: the residue designated 'X' was determined to be a Ser with covalently bound chon
F:1-18/Domain: signal sequence #status predicted <SIG> F:19-575/Product: thrombomodulin, membrane-bound form #status predicted <MAT> F:19-513/Domain: extracellular #status predicted <EXT> F:19-486/Product: thrombomodulin, unimary form #status experimental <MAU> F:24-167/Domain: C-type lectin homology <LCH>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 575;
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Pred. No. 5.1e-169;
; Mismatches 0;
                                                                                                A; Reference number: S38954; MUID:94029900; PMID:8216207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Cross-references: GDB:119613; OMIM:188040
A;Map position: 20p11.2-20p11.2
A;Introns: #status absent
C;Complex: homodimer, urinary form
C;Function:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           245-280/Domain: EGF homology <EG1>
288-323/Domain: EGF homology <EG2>
329-362/Domain: EGF homology <EG3>
409-404/Domain: EGF homology <EG4>
408-439/Domain: EGF homology <EG5>
445-480/Domain: EGF homology <EG5>
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F;517-539/Domain:
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A; Molecule type: mRNA A; Residues: 1-577 (2D11) A; Cross-references: EMBL:X14432; NID:954781; PIDN:CAA32597.1; PID:954782 A; Cross-references: EMBL:X14432; NID:954781; PIDN:CAA32597.1; PID:954782 B; Dittman, W.A.: Kumada, T.: Sadler, J.E.; Majerus, P.W. A; Dittman, W.A.: X83, 18812-18822, 1988 A; Title: The structure and function of mouse thrombomodulin. Phorbol myristate acetat A; Reference number: A32001; MUID:89008498; PMID:2844823 R;Imada, S.; Yamaguchi, H.; Nagumo, M.; Katayanagi, S.; Iwasaki, H.; Imada, M. Dev. Biol. 140, 113-122, 1990 A;Title: Identification of fetomodulin, a surface marker protein of fetal development A;Reference number: A60501; MUID:90292331; PMID:2162790 A; Molecule type: protein
A; Residues: 19-22;330-343;479-489;545-555;562-575 < IMA>
A; Residues: 19-22;330-343;479-489;545-555;562-575 < IMA>
C; Comment: Thrombomodulin binds and internalizes with thrombin. It is also a cofac C; Superfamily: thrombomodulin; C-type lectin homology; EGF homology
C; Keywords: anticoagulant; membrane protein; phosphoprotein; receptor
F; 24-65; Domain: C-type lectin homology < LCH>
F; 244-279/Domain: EGF homology < LCH>
F; 328-36/Loomain: EGF homology < LCH|
F; 328-36/Loomain: EGF homology < LCH|
F; 328-36/Loomain: EGF homology < Length 577; Score 1899; DB 2; Pred. No. 1.3e-107; F;368-403/Domain: EGF homology <EG4> F;407-438/Domain: EGF homology <EG5> F;444-479/Domain: EGF homology <EG6> 65.1%; 65.5%; A; Molecule type: mRNA A; Residues: 97-577 <DI2> A; Cross-references: GB:J04060 A; Accession: A32001 A; Accession: A60501

Best Local Similarity

Query Match

61 TVRSSVAADVISLLLNGDGGVGRRRLWIGLQLPPGCGDPKRLGPLRGFQWVTGDNNTSYS 120

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100.08;

Best Local Similarity 100. Matches 516; Conservative Similarity

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Gaps

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GenCore version 5.1.3
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OM protein - protein search, using sw model

December 16, 2002, 17:22:58; Search time 16.5 Seconds Run on:

(without alignments)
3006.386 Million cell updates/sec

US-09-509-994-1 2916 Title: Perfect score:

1 MLGVLVLGALALAGLGFPAP.........PSPTPGSTLTPPAVGLVHSG 516 Sequence:

BLOSUM62 Gapop 10.0 , Gapext 0.5 Scoring table:

283224 seqs, 96134422 residues Searched: Total number of hits satisfying chosen parameters:

Minimum DB seq length: 0 Maximum DB seq length: 200000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

PIR_73:* Database

pirl:* pir2:* pir3:* pir4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

CHANADIEC

ξū	Description	thrombomodulin pre	thrombomodulin pre	ļp	hypothetical prote		fibrillin-2 precur	fibulin-2 precurso	fibrillin I - bovi	fibrillin-2 precur	fibrillin 1 precur	fibrillin-1 precur	hypothetical prote	fibulin-2 precurso	fibulin-1D precurs	notch4 - mouse		-	fibulin 1, splice	notch3 protein - h	transforming growt	hypothetical prote	fibulin 1 precurso	fibulin 1 precurso	hypothetical prote	н		fibulin, splice fo	latent transformin	Notch-1 protein -
SUMMARIES	ID	THHUB	A60501	A25918	T27283	T13954	A57278	A55184	A55567	A54105	A47221	A55624	T46488	A49457	T43210	T09059	A38261	T42760	T42990	S78549	A35626	T34513	B36346	C36346	T22793	A55494	S78040	S34968	A57293	A46019
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ď	Query Match	100.0	65.1	37.5	14.3	14.2	12.8	12.6	12.6	12.5	12.4	12.4	12.3	12.2	11.4	11.3	11.2	11.1	11.1	11.0	11.0	10.8	10.7	10.7	10.7	10.7	10.6	10.6	10.4	10.2
	Score	2916	1899	1092.5	416	414	373	367.5	367	365	363	361	359	357	331	329.5	327.5	324.5	324.5	320.5	32	314.5	313	313	313	312.5	308	308	303.5	296
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286	285	283.5	280.5	280	278.5	277.5	277	276.5	272	269.5	263	259.5	256.5	254.5	249.5
30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45

ALIGNMENTS

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SULT	HUB

thrombomodulin precursor [validated] - human

C; Species: Homo sapiens (man)
C; Species: Homo sapiens (man)
C; Date: 31-Dec-1988 #sequence_revision 12-May-1995 #text_change 15-Sep-2000
C; Date: 31-Dec-1988 #sequence_revision 12-May-1995 #text_change 15-Sep-2000
C; Date: 31-Dec-1988 #sequence_revision 12-May-1995 #text_change 15-Sep-2000
B; Shirai, T; Shiojiti, S; Ito, H; Yamamoto, S; Kusumoto, H; Deyashiki, Y.; Maruy J; Błochem. 103, 281-285, 1988
A; Titlei, Gene structure of human thrombomodulin, a cofactor for thrombin-catalyzed ac A; Reference number: A41442; MUID:88227901; PMID:2836377

A; Molecule type: DNA
A; Residues: 1-575 < SSHI>
A; Cross.references: DDBJ:D00210; NID:g220126; PIDN:BAA00149.1; PID:g220127
A; Cross.references: DDBJ:D00210; NID:g220126; PIDN:BAA00149.1; PID:g220127
B; Jackman, R.W.; Beeler, D.L.; Fritze, L.; Soff, G.; Rosenberg, R.D.
Proc. Natl. Acad. Sci. U.S.A. 84, 6425-6429, 1987
A; Title: Ruman thrombomodulin gene is intron depleted: nucleic acid sequences of the A; Reference number: A28307; MUID:87317665; PMID:2819876
A; Accession: A28307

A; Molecule type: DNA; mRNA A; Residues: 1-472, A, 474-575 <JAC> A; Residues: 1-472, A, 474-575 <JAC> A; Cross-references: GB:J02973; NID:q339658; PIDN:AAA61175,1; PID:g339659 B; Suzuki, K.; Kusumoto, H.; Deyashiki, Y.; Nishioka, J.; Maruyama, I.; Zushi, M.; Kaw EMBO J. 6, 1891-1897, 1987 A; Tille: Structure and expression of human thrombomodulin, a thrombin receptor on end A; Reference number: A29680; MUID:88004395; PMID:2820710

A. Accession: A29680
A. Molecule type: mRNA
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A. Molecule type: mRNA
A. Rocession: A29680
A. Molecule type: mRNA
A. Rocession: A29680
A. Experimental source: lung endothelium
A. Experimental source: lung endothelium
A. Were: part of this sequence, including the amino end of the mature protein, were de B. M. Men. D.: Dittman, W. A.: Ye, R. D.: Deaven, L. L.: Majerus, P. W.: Sadler, J.E.
Biochemistry 26, 4350-4357, 1987
A. Title: Human thrombomodulin: complete cDNA sequence and chromosome localization of A. Reference number: A27073; MUID:88024950; PMID:2822087

A; Molecule type: mRNA A; Residues: 1-472, A', 474-575 < WEN> A; Cross-references: GB:M16552; NID:9339656; PIDN:AAB59508.1; PID:9339657 A; Experimental source: placenta A; Missimanto, S; Missimanto, T; Tamaki, T; Ohkuchi, M; Kimura, S; Aoki, N. J. Biochem. 113, 433-440, 1993 A; Reference number: JX0264; MUID:93293792; PMID:8390446 A; Reference number: JX0264; MUID:93293792; PMID:8390446

A; Molecule type: protein; mRNA
A; Residues: 19-472, 'A', 474-486 < YAM>
A; Experimental source: urine
A; Note: the urinary form appears to be identical with that circulating in plasma
B; Gerlitz, B.; Hassell, T.; Vlahos, C.J.; Parkinson, J.F.; Bang, N.U.; Grinnell, B.W.

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                                                                                            Protein is encoded by plasmid p2.1 derived from human cell line A549 known to express about 10000 molecules of thrombomodulin per cell. Plasmid p2.1 showed a strong hybridisation signal with a 60-mer bovine-thrombomodulin probe. Thrombomodulins are used to potentiate a patient's anticoagulant capacity. See also AAN82027 and AAN82037.
        Recombinant protein having thrombomodulin activity - used in the therapeutic control of coagulation and the treatment and prevent of thrombotic episodes
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Job time : 37.5 secs
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Matches 514; Conservative
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                                        DQPGSYSCMCETGYRLAADQHRCEDVDDCILEPSPCPQRCVNTQGGFECHCYPNYDLVDG 360
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/note= "for low mol. wt deriv.; optionally present"
1.18
/label = signal peptide
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                                                                 RWARLDLNGAPLCGPLCVAVSAAEATVPSEPIWEEQQCEVKADGFLCEFHFPATCRPLAV
                                                                                                                                                                      181 EPGAAAAAVSITYGTPFAARGADFQALPVGSSAAVAPLGLQLMCTAPPGAVQGHWAREAP
                                                                                                                                                                                                                            241 GAWDCSVENGGCEHACNAIPGAPRCQCPAGAALQADGRSCTASATQSCNDLCEHFCVPNP
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Length 515;
                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      thrombomodulin activity; Protein C; anticoagulant; epidermal Growth Factor (EGF) domains.
99.7%; Score 2906; DB 12;
99.8%; Pred. No. 1.5e-161;
11ve 0; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DSGKVDGGDSGSGEPPPSPTPGSTLTPPAVGLVHS 515
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                          Matches 514; Conservative
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N-PSDB; AAP82026.
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              Similarity
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  Query Match
              Best Local
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RESULT 13
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  This sequence represents a human thrombomodulin protein. The invention relates to a treating agent for vasculitis containing a peptide which promotes activation of protein C by thrombin.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 contains peptide which promotes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 516;
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                                                                                            Human; thrombomodulin; vasculitis; protein C; thrombin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 2912; DB 21;
Pred. No. 6.8e-162;
0; Mismatches 1;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          activation of protein C by thrombin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Claim 4; Page 13-14; 18pp; Japanese
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Treating agent for vasculitis
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                                                                                                                                                                                                                                                                                                                                                                                 (ASAH ) ASAHI KASEI KOGYO KK.
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(first entry)
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Best Local Similarity 99.8
Matches 515; Conservative
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                                                                                                                                                                                         JP2000053582-A
                                                                                                                                             Homo sapiens.
                                                                                                                                                                                                                                                                                      06-AUG-1998;
                                                                                                                                                                                                                                                                                                                                  06-AUG-1998;
28-JUL-2000
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DQPGSYSCMCETGYRLAADQHRCEDVDDCILEPSPCPQRCVNTQGGFECHCYPNYDLVDG 360
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        plasmid M13TWD1 (see AAR22016) encoding the first 516 N-terminal amino acids of human thrombomodulin was used as a template for site-directed mutagensis using the "TWM1 mutator" to produce plasmid M13TWM1. In the mutant thrombomodulin encoded by the plasmid, the wild-type Asp residue at position 367 is substituted by an Ala residue. This mutant, truncated thrombomodulin has low activity in the activation of protein C, c.f. high activity for the similarly truncated thrombomodulin with Asp 367.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    New polypeptide inhibits blood coagulation and platelet aggregation - promotes thrombin catalysed protein C activation for treating myocardial infarction, thrombosis, embolism, etc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 516;
                                                                                                                                         Human thrombomodulin (1-516) with Asp367 substituted by Ala
                                                                                                                                                                                       Mutant; thrombin binding site; blood clotting; TMm1 mutator
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Pred. No. 1.2e-161;
); Mismatches 1;
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AAR22017 standard; Protein; 516
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                                                                                               (first entry)
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Best Local Similarity
Matches 515; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gomi K,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              516 AA;
                                                                                                                                                                                                                                                                                                                                                                         05-AUG-1991;
                                                                                                                                                                                                                                      Homo sapiens
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thrombosis, embolism, and diabetes

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Gaps

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Mismatches

Conservative

Matches 515;

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TQASCECPEGYILDDGFICTDIDECENGGFCSGVCHNLPGFFECICGPDSALVRHIGTDC 480
                                                  RWARLDINGAPLCGPLCVAVSAAEATVPSEPIWEEQQCEVKADGFLCEFHFPATCRPLAV 180
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                                                                                                                                                                                                    DQPGSYSCMCETGYRLAADQHRCEDVDDCILEPSPCPQRCVNTQGGFECHCYPNYDLVDG 360
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MLGVLVLGALALAGLGFPAPAEPQPGGSQCVEHDCFALYPGPATFLNASQICDGLRGHLM 60
           1 MLGVLVLGALALAGIGFPAPAEPQPGGSQCVEHDCFALYPGPAFFLNASQICDGLRGHLM 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Stable aqueous parenteral thrombomodulin solution - comprising buffer and surfactant, useful for treating acute coronary syndrome,
                                                                                         GAWDCSVENGGCEHACNAIPGAPRCQCPAGAALQADGRSCTASATQSCNDLCEHFCVPNP
                                                                                                                                                                       EPGAAAAAVSITYGTPFAARGADFQALPVGSSAAVAPLGLQLMCTAPPGAVQGHWAREAP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human; thrombomodulin; aqueous parenteral solution; storage;
distribution; acute coronary syndrome; thrombosis; embolism;
diabetes.
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97JP-0281659.
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N-PSDB; AAX55880.
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15-OCT-1997;
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The present invention describes a method for maintaining the quality of an aqueous parenteral solution of thrombomodulin comprising buffer and surfactuant assptically filled in a case or syringe, Maintaining the quality of an aqueous, parenteral thrombomodulin solution is characterised in that the solution: (a) comprises soluble thrombomodulin, a buffer to maintain the pH at 5.7 and a surfactant; (b) is aseptically filled into: (i) a case or (ii) a syringe without any empty space; and (c) is kept in liquid form in storage and distribution and not frozen or freeze dried. Thrombomodulin is used to treat acute coronary syndrome freeze dried. Thrombomodulin is used to treat acute coronary syndrome or sesel thrombosis (e.g. cerebral, vascular and peripheral blood vessel thrombosis), embolism, peripheral blood vessel disorders (e.g. Raynaulus disease), arteriossis, vasculitis (e.g. due to systemic lupus erythematosus or Barrett's syndrom;) multiple organ failure, disseminated intravascular coagulation, transient ischemala, diabetes, liver veno-occlusive diseases and deep vein thrombosis. The composition ready to use form avoiding the problems of dissolution and accuracy when preparing on demand. The present sequence represents human
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                            Claim 7; Page 90-92; 97pp; Japanese
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AAY83935
ID AAY83935 standard; Protein; 516
AC AAY83935;
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Best Local Similarity 99.8
Matches 515; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                         516 AA;
                                                                                                                                                                                                                                                                                                                                                                           thrombomodulin.
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The invention relates to the design, production and use of thrombomodulin (TM) analogues that have the ability to enhance the thrombin-mediated activation of protein c which have a significantly reduced ability to promote activation of thrombin-activatable fibrinolysis inhibitor (TAFI).

The analogue is useful for treating thrombotic disease in human, by administering it or a polynucleotide encoding it to the patient and expressing the analogue in vivo. Composition comprising TM analogue is useful for treating a thrombotic disease or condition in mammals. TM analogue is useful in antithrombotic therapy. TM analogue is also useful for treating diseases in which thrombus formation plays a significant intraction diseases in which thrombus formation plays a significant intraction diseases in which thrombus formation is also useful for treating diseases in which thrombus formation is septic shock, bulmonary embolism, acute respiratory disorders including coronary or useful for treating various circulatory disorders including coronary or pulmonary embolism, stroke and systemic coagulation disorders including coronary or bulmonary embolism, stroke and systemic coagulation disorders including coronary or travamina of pregnancy. The present sequence is human full-length native
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                                                             /#0.7481.515
/mote= "0-linked glycosylation site"
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                                                                                                           /label= Transmembrane_domain
540..575
                                                   "6 EGF-like domains"
                                                                                                                                        540..575
/label= Cytoplasmic_domain
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 19..244
/label= N-terminal_domain
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                                                                                                                                                                                                                                                             20-JUN-2001; 2001WO-US19590.
                                     245..480
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                                                        "note=
                                                                                                                                                                                                                                                                                                                                                                                 Light D, Morser MJ,
                                                                                                                                                                                                                                                                                                                                                (SCHD ) SCHERING AG.
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                                                                 Modified-site
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EPGAAAAAVSITYGTPFAARGADFQALPVGSSAAVAPLGLQLMCTAPPGAVQGHWAREAP 240
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                                                                                                                                           ECVEPVDPCFRANCEYQCQPLNQTSYLCVCAEGFAPIPHEPHRCQMFCNQTACPADCDPN 420
                                                                                                                                                         TQASCECPEGYILDDGFICTDIDECENGGFCSGVCHNLPGTFECICGPDSALVRHIGTDC 480
                           GAWDCSVENGGCEHACNAIPGAPRCQCPAGAALQADGRSCTASATQSCNDLCEHFCVPNP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Plasmid M13TWD1 (see AAR22016) encoding the first 516 N-terminal amino acids of human thrombomodulin was used as a template for state-directed mutagensis using the "PWMZ mutator" to produce plasmid M13TWMZ. In the mutant thrombomodulin encoded by the plasmid, the wild-type Asp residue at position 367 is substituted by an Glu residue. The activity of this mutant, truncated thrombomodulin (i.e. D123Glu) in the activation of protein C was compared to that of similarly truncated thrombomodulin (i.e. D123Asp). The activity of D123Glu was as hig at position 367 (i.e. D123Asp). The activity of D123Glu was as shig as 1.2 times that of D123Asp. See AAR22013-R22022 and AAQ25074.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 aggregation - promotes thrombin catalysed protein C activation for treating myocardial infarction, thrombosis, embolism, etc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mutant; thrombin binding site; blood clotting; TMm2 mutator.
                                                                                                                                                                                                                                                                                                                                                                                                                                             Human thrombomodulin (1-516) with Asp367 substituted by
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   New polypeptide inhibits blood coagulation and platelet
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Length 516;

Score 2912; DB 13; Pred. No. 6.8e-162;

99.98;

Best Local Similarity

Query Match

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Gaps

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Length Indels

9 9

180 180 240 240 300 300 360 360 420 420 480

361

421

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TVRSSVAADVISLLLNGDGGVGRRRLWIGLQLPPGCGDPKRLGPLRGFQWVTGDNNTSYS 120
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                                                                                                                                                            1 MLGVLVLGALALAGLGFPAPAEPQPGGSQCVEHDCFALYPGPATFLNASQICDGLRGHLM
                                                                                                                                                                              RWARLDINGAPLCGPLCVAVSAAEATVPSEPIWEEQQCEVKADGFLCEFHFPATCRPLAV
                                                                                                                                                                                                                                                                                                                          241 GAWDCSVENGGCEHACNAIPGAPRCQCPAGAALQADGRSCTASATQSCNDLCEHFCVPNP
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neurological damage resulting from spinal cord injury in human. The present sequence is human thrombomodulin protein.
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                                                                                        100.0%; Score 2916; DB 23; 100.0%; Pred. No. 4.4e-162;
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                                                                                                                         Mismatches
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19..575
/note= "Human mature the
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                                                                                                                           Conservative
                                                                                                        Best Local Similarity
Matches 516; Conserv
                                                       575 AA;
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                                                         Sequence
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Best Local
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   Treating neurological damage resulting from spinal cord injury in humans by administering a soluble, recombinant thrombomodulin analog which is resistant to oxidation
                                                         TQASCECPEGYILDDGFICTDIDECENGGFCSGVCHNLPGTFECICGPDSALVRHIGTDC
                                                                                                                                                                                                                                                                                                                                                                                                neurologic trauma; vulnerary; damage; therapy; tranquilliser;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         site
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/note= "Transmembrane domain"
522..557
/note= "Cytoplasmic domain"
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/label= Signal_peptide
19..575
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                                                                                                                                                                                                                                                                                                                                                                                                thrombomodulin; analogue; cord injury; neurological
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Peptide Protein

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361 ECVEPVDPCFRANCEYQCQPLNQTSYLCVCAEGFAPIPHEPHRCQMFCNQTACPADCDPN 420
                                                                                     Homo sapiens
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                                                                                                                                                            01-MAY-1992;
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                                                                                                                          In an example, plasmid M13mpl9TMD3 (constructed from pSV2TMJ2 (ATC 67238) config. a human thrombomodulin sequence) was subjected to site directed mutagenesis to prepare pSV2TMD7. Plasmid pSV2TMD7 was transfected to COS-1 cells. The activity of promoting protein Cactivation by thrombin of the peptide produced by the transformed COS-1 cell was measured. The ant. of the peptide was determined.
                                                                                                                                                                                                                                                                                                                                                                          Novel polypeptide obtd. by culturing transformed fungus - having blood coagulation preventing, platelet aggregation preventing and thrombolytic activities
                                                                                                                                                                                                                                                                                                                              RWARLDINGAPICGPLCVAVSAAEATVPSEPIWEEQQCEVKADGFICEFHFPATCRPLAV
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                                                                                                                                                                                                                     100.0%; Score 2916; DB 14; Length 575; 100.0%; Pred. No. 4.4e-162;
                                                                                                          Novel polypeptides, obtd. by culturing transformed fungus, hablood coagulation preventing, platelet aggregation preventing
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                                                                                                                                                                                                                                       0; Mismatches
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91JP-0189984.
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                                                                                                                                                                                                                                        Conservative
                  CHEM IND
                                   WPI; 1993-299652/38
                                                                                                                                                                                                                             Similarity
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30-JUL-1991;
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TVRSSVAADVISLLINGDGGVGRRRIWIGLQLPPGCGDPKRLGPLRGFQWVTGDNNTSYS 120
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Peptide with anticoagulant and platelet aggregation inhibitor activity - which promotes protein C activation by thrombin and useful in treating coagulation disorders e.g. thrombosis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
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                                                 Anticoagulant; platelet aggregation inhibitor; protein C; activation; thrombin; thrombomodulin; coagulation disorder; thrombosis; myocardial infarction; embolism; telangiemphraxis; arteriosclerosis obliterans; disseminated intravascular coagulation; DIC; angina pectoris; gestosis; transient ischaemic attack.
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Human thrombomodulin.
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                                                  GAWDCSVENGGCEHACNAIPGAPRCQCPAGAALQADGRSCTASATQSCNDLCEHFCVPNP 300
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DQPGSYSCMCETGYRLAADQHRCEDVDDCILEPSPCPQRCVNTQGGFECHCYPNYDLVDG
                                                                                                                                                                                                                                                          Thrombomodulin; chondroitin; protein C; thrombin; thrombolysis; chondroitin sulphate; anticoagulant; myocardial infarction.
                                                                                                                                                                                                                                                                                                                                                                                                                                        contg. chondroitin - has and thrombolytic activity
                                                                                                                                                                                                                                                                                                             366.480
/labbal human thrombomodulin active
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Jabbl opt. C-terminal sequence
                                                                                                                                                                 DSGKVDGGDSGSGEPPPSPTPGSTLTPPAVGLVHSG 516
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/label= signal peptide
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/label= opt. N-terminal
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                                                                                                                                                                                                        standard; Protein;
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                                                                                                                                                                                                                                   (first entry)
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c-terminal= 36 amino acids). Additionally it has an N-terminal signal sequence and an attached sugar chain, contg. chondroltin or chondroltin sulphate. It promotes the activation of protein C by thrombin and has good anticoagulant, platelet aggregation inhibition and thrombolytic activities. It can therefore be used for treating cardiovascular diseases, eg arteriosclerosis or myocardial infarction.
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                                                                                                                                                                                  Query Match 100.
Best Local Similarity 100.
Matches 516; Conservative
                                                                                                                                              575 AA;
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DQPGSYSCMCETGYRLAADQHRCEDVDDCILEPSPCPQRCVNTQGGFECHCYPNYDLVDG 360
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                     61 TVRSSVAADVISLLLNGDGGVGRRRLWIGLQLPPGCGDPKRLGPLRGFQWVTGDNNTSYS 120
421 TQASCECPEGYILDDGFICTDIDECENGGFCSGVCHNLPGTFECICGPDSALVRHIGTDC 480
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Treating agent for vasculitis contains peptide which promotes
                                                                                                                                                                                                                                                                                                                                                        Human; thrombomodulin; vasculitis; protein C; thrombin.
                                                                                            DSGKVDGGDSGSGEPPPSPTPGSTLTPPAVGLVHSG
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                                                                                                                                                                                                                                                                                                                     Human thrombomodulin TMD protein.
                                                                                                                                                                                                         AAY83934 standard; Protein; 516
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Best Local Similarity 100.
Matches 516, Conservative
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N-PSDB; AAA10027.
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The invention relates to a novel method for the preparation of highly pure soluble thrombomodulin (TM) containing substantially no serumderived or antibody-derived substance. The method comprises isolating soluble TM from unpurified serum via affinity purification using an anti-TM antibody. The soluble TM is then treated with with a cation exchanger at a specific conductivity of 25 to 34 ms/cm and a pH of 3 to 4, and the fraction containing the soluble TM is isolated. The soluble TM can be used as a blood anticoagulation agent and a thrombolytic agent.
                          TVRSSVAADVISLLLNGDGGVGRRRLWIGLQLPPGCGDPKRLGPLRGFQWVTGDNNTSYS 120
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TOASCECPEGYILDDGFICTDIDECENGGFCSGVCHNLPGTFECICGPDSALVRHIGTDC
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   used as
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Preparation of highly pure soluble thrombomodulin antiblood coagulation agent and a thrombolytic agent
                                                                                                                            DSGKVDGGDSGSGEPPPSPTPGSTLTPPAVGLVHSG 516
                                                                                                                                                                                                                                                                                                                                                                                                                                    ID NO:3.
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                                                                                                                                                                                                                                                                                516
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            anticoagulant; thrombolytic.
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N-PSDB; AAZ55965.
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Ξ Yui

Yokozawa A,

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Tsuruta

Shimizu H,

Murata T,

WPI; 1999-277444/23.

N-PSDB; AAX55879

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(ASAH) ASAHI KASEI KOGYO KK

97JP-0308523. 97JP-0281659. 98WO-JP04609

13-OCT-1998; 11-NOV-1997; 15-0CT-1997;

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Plasmid Mi3mp19TMJ3 (see AAR22013) was used as template for site-directed mutagenesis. A 177bp fragment was deleted using the "TMG1 deleter" oligonucleotide to give plasmid Mi3TMD1 which encodes the first 516 N-terminal amino acids of human thrombomodulin. Plasmid Mi3TMD1 was completely digested with HindIII and BamHI and a TMD1 fragment of ca. 1700bp was isolated. The fragment was ligated to HindIII- and BglII-cut plasmid pSV2-dhfr to give the recombinant plasmid pSV2TMD1. See AAR22014-R22022 and AAQ25072.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     480
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0
                                                                                                                                               100.0%; Score 2916; DB 13; Length 516; 100.0%; Pred. No. 4e-162; artive 0; Mismatches 0; Indels 0;
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distribution; acute coronary syndrome; thrombosis; embolism;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DSGKVDGGDSGSGEPPPSPTPGSTLTPPAVGLVHSG 516
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                                                                                                                                                                           Conservative
                                                                                                                                                 Query Match
Best Local Similarity
Matches 516; Conserv
                                                                                                                        516 AA;
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The present invention describes a method for maintaining the quality of an aqueous parenteral solution of thrombomodulin comprising buffer and surfactural asseptically filled in a case or syringer. Maintaining the quality of an aqueous, parenteral thrombomodulin solution is characterised in that the solution: (a) comprises soluble thrombomodulin, in that the solution: (a) comprises soluble thrombomodulin, a buffer to maintain the pH at 5-7 and a surfactant; (b) is asseptically filled into: (1) a case or (ii) a syringe without any empty space; and (c) is kept in liquid form in storage and distribution and not frozen or freeze dried. Thrombomodulin is used to treat acute coronary syndrome (such as myocardial infarction, unstable angina and coronary artery blockage), thrombosis (e.g. cerebral, vascular and peripheral blood vessel thrombosis, embolism, peripheral blood vessel disorders (e.g. Raynaulds disease), arteriosclerosis, vasculitis (e.g. due to systemic lupus erythematosus or Barrett's syndrome), multiple organ failure, disseminated intravascular coagulation, transient ischaemia, diabetes, liver veno-occlusive diseases and deep vein thrombosis. The composition is stable for a long period of time and can be stored and distributed in preparing on demand. The present sequence represents human thrombomodulin.
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                                                                                                                                                                                                        Stable aqueous parenteral thrombomodulin solution - comprising buffer and surfactant, useful for treating acute coronary syndrome, thrombosis, embolism, and diabetes
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New polypeptide inhibits blood coagulation and platelet aggregation - promotes thrombin catalysed protein C activation for treating myocardial infarction, thrombosis, embolism, etc.
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                                                                                                                                                                 December 16, 2002, 17:19:38; Search time 34.5 Seconds (without alignments) 1992.966 Million cell updates/sec
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                GenCore version 5.1.3
Copyright (c) 1993 - 2002 Compugen Ltd.
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Human Human

recombinant

thrombomodul thrombomodul

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GenCore version 5.1.3

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OM protein - protein search, using sw model

Run on: December 16, 2002, 17:26:23; Search time 8.5 Seconds

(without alignments)

1011.502 Million cell updates/sec

105-09-509-994-1

Sequence: US-09-509-994-1

Sequence: 1MCVLVLGALALAGLGFPAP.......PSPTPGSTLTPPAVGLVHSG 516

Scoring table: BLOSUM62

Gapop 10.0, Gapext 0.5

Searched: 105981 seqs, 16662342 residues

Total number of hits satisfying chosen parameters: 105981

Minimum DB seq length: 0

Maximum DB seq length: 2000000000
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Published_Applications_AA:*

1: /cgn2_6/ptodata/1/pubpaa/USOB_NEW_PUB.pep:*
2: /cgn2_6/ptodata/1/pubpaa/USOB_NEW_PUB.pep:*
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14: /cgn2_6/ptodata/1/pubpaa/USOS_PUBCOMB.pep:*

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

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Result		Query					
No.	Score	Match	Match Length DB	DB	ID	Description	
-	2916	100.0	575	10	US-09-938-405-2	Sequence 2, Appl1	
7	581	19.9	652	10	US-09-789-919-96	Sequence 96, Appl	
æ	543	18.6	644	10	US-09-789-919-62	Sequence 62, Appl	
4	543	18.6	644	10	US-09-789-919-73	Sequence 73, Appl	
S	355	12.2	176	6	US-10-000-512-8	Sequence 8, Appli	
9	355	12.2	959	6	US-10-000-512-10	Sequence 10, Appl	
7	352.5	12.1	877	10	US-09-764-898-200	Sequence 200, App	
80	350.5	12.0	915	6	US-09-905-291A-34	Sequence 34, Appl	
6	350.5	12.0	915	10	US-09-909-320-34	Sequence 34, Appl	
10	350.5	12.0	915	10	US-09-909-088B-34	Sequence 34, Appl	
11	333	11.4	666	10	US-09-747-371-2		
12	328.5		1009	10	US-09-898-570-16	Sequence 16, Appl	
13	327.5		974	10	US-09-898-570-14	Sequence 14, Appl	
14	326		800	10	US-09-764-853-800	Sequence 800, App	
15	326		800	10	US-09-764-898-272		
16	323		534	10	US-09-804-156-14	Sequence 14, Appl	
17	323		534	10	US-09-946-633-6	Sequence 6, Appli	
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19	315	10.8	997	10	US-09-747-371-3	Sequence 3, Appli	

20	311	10.7	433	10	115-09-925-302-691	Sequence 691. App
21	308	10.6	448	6	US-10-041-016-2	Sequence 2, Appli
22	308	10.6	448	10	US-09-083-002-2	Sequence 2, Appl1
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24	308	10.6	448	10	US-09-836-561-1	Sequence 1, Appl1
25	302	10.4	448	σ	US-10-066-500-15	Sequence 15, Appl
26	302	10.4	448	12	US-10-052-586-408	Sequence 408, App
27	288.5	6.6	493	σ	US-09-974-298-52	Sequence 52, Appl
28	288	6.6	735	10	US-09-898-570-10	Sequence 10, Appl
29	278.5	9.6	387	10	US-09-836-561-5	Sequence 5, Appl1
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31	271	9.3	2444	10	US-09-944-849-2	Sequence 2, Appl1
32	268	9.5	1055	10	US-09-855-722-2	
33	267	9.5	1212	10	us-09-855-722-3	۳,
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35	267	9.2	1238	10	US-09-944-849-4	4,
36	266.5	9.1	509	თ	US-09-905-291A-315	'n
37	266.5	9.1	509	10	US-09-909-320-315	Seguence 315, App
38	266.5	9.1	209	10	US-09-909-088B-315	Seguence 315, App
39	266.5	9.1	509	12	US-10-052-586-52	Sequence 52, Appl
40	251.5	9.8	816	10	US-09-976-165-37	37,
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43	234	8.0	722	10	US-09-908-322-12	Sequence 12, Appl
, 44	233.5	8.0	1404	10	US-09-944-849-8	Sequence 8, Appli
45	230.5	7.9	1246	10	US-09-919-497-85	Sequence 85, Appl

ALIGNMENTS

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SULT 1 SQUENCE 2, APPLICATION US/09938405 SQUENCE 2, APPLICATION US/09938405 SQUENCE 2, APPLICATION US/09938405 SQUENCEAL INFORMATION: APPLICANT: Festoff, Barry W. APPLICANT: Festoff, Barry W. APPLICANT: FOR MOISET, MIChael J. TITLE OF INVENTION: Thrombomodulin Analogs for Use in Recovery of FILE REFERENCE: 51960AUSMI CURRENT APPLICATION NUMBER: 00/229,714 PRIOR PILING DATE: 2000-08-31 PRIOR FILING DATE: 2000-08-31 NUMBER OF SEQ ID NOS: 2 SOFWARRE: PatentIn version 3.1 LENGTH: 575 TYPE: PRT ORGANISM: Homo sapiens OP-938-405-2 UNIVERSION OF ORGANISM: DITTLING OF ORGANISM: HOMO SAPIENS OP-938-405-2 INICALLAGGGFRAPABEDEOPGGSQCVEHDCFALYPGPATFLNASQICGGIRGHI INICALLING OF ORGANISM: HOMO SAPIENS OP-938-405-2 UNIVERSION OF ORGANISM: HOMO SAPIENS ORGANISM: HOMO ORGANISM ORGANISM: HOMO ORGANISM ORGANISM: HOMO ORGA	Cor	0;					
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ECVEPVDPCFRANCEYQCQPLNQTSYLCVCAEGFAPIPHEPHRCQMFCNQTACPADCDPN 420
                                                                                                                                       DQPGSYSCMCETGYRLAADQHRCEDVDDCILEPSPCPQRCVNTQGGFECHCYPNYDLVDG 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  164 GFLCEFHFPATCRPLAV-EPGAAAAVSITYGTPFAARGADFQALPVGSSAAVAPLGLQL 222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              60 MTVRSSVAAD----VISLLINGDGGVGRR--RIWIGLQLPPG-CGDPKRLGPLRGFQWVT 112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 113 GDNNTSYSRWARLDLNGAPLCGPLCVA--VSAAEATVPSE-PIWEEQQC-----EVKAD 163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MC-TAPPGAVQGHW---AREAPGAWD-------CSVENGGCEHAC-NAIPGAP 263
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      264 RCQCPAGAALQADGRSCTASATQSCNDLCE--HFCVPNPDQPGSYSCMCETGYRLAADQH 321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RCEDVDDCILEPSPCPQRCVNTQGGFECHCYPNYDLVDGECVEPVDPCFRANCEYQCQPL 381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        342 DCVDVDEC--QDSPCAQECVNTPGGFRCECWVGY-----EPGGP-----GEGACQDV 386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           382 NQTSYLCVCAEGFAPIPHEPHRCQMFCNQTACPADCDPNTQAS--CECPEGYIL--DDGF 437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       284 LCGCRPGRRILDDLVTC-ASRNPCSSSPCRGGATCVLGP-HGKNYTCRCPQGYQLDSSQL
                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Lemischka, Ihor
APPLICANT: Lemischka, Ihor
APPLICANT: Moore, Kateri
TITLE OF INVENTION: GENES THAT REGULATE HEMATOPIETIC BLOOD FORMING:
FITLE OF INVENTION: CELLS AND USES THEREOF
FILE REFERENCE: 2275-1-005
CURRENT APPLICATION NUMBER: US/09/789,919
CURRENT FILING DATE: 2001-02-21
NUMBER OF SEQ ID NOS: 96
SOFTWARE: PATENTIN Ver. 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LGVLVLGALALA - - GLGFPAPAEPQPGGSQCVEHDCFALYPGPATFLNASQICDGLRGHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5 MGLLLLLLLLLTQPGAGTGADTE----AVVCVGTACYTAHSGKLSAAEAQNHCNQNGGNL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       225 -CGEGDKDETQSHYFLCKEKAPDVFDWGSSGPLCVSPKYGCNFNNGGCHQDCFEGGDGSF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                124;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       19.9%; Score 581; DB 10;
llarity 31.6%; Pred. No. 2.8e-29;
Conservative 56; Mismatches 210;
                                                                                                                                                                                                                                                           DSGKVDGGDSGSGEPPPSPTPGSTLTPPAVGLVHSG 516
                                                                                                                                                                                                                                                                            Sequence 96, Application US/09789919
Patent No. US20020064855A1
GENERAL INFORMATION:
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Best Local S
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Patent No. US20020064855A1
GENERAL INFORMATION:
APPLICANT: Lemischka, Ihor
APPLICANT: Lemischka, Ihor
APPLICANT: Moore, Kateri
TILLE OF INVENTION: CELLS AND USES THEREOF
FILE REFERENCE: 2275-1-005
CURRENT APPLICATION NUMBER: US/09/789,919
CURRENT FILING DATE: 2011-02-21
NUMBER OF SEQ ID NOS: 96
SOFTWARE: PATENT Ver. 2.0
                                                                        SVAA----DVISLLLNGDGGVGRR--RLWIGLQLPPGCGDPKRLGPLRGFQWVTGDNNTS 118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        124 YSNWYKASKSSCIFKRCVSLILDLSLTPHPSHLPKWHESPCGTPBAPGNSIEGFLCKFNF 183
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                                                438 ICTDIDEC--ENGGFCSGVCHNLPGTFECICGPDSALVRHIGTDCDSGKV-----D
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                                                                                                                      GGDSGSGE-----PPPSPTPGSTLTPPA 509
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Best Local Similarity 30.08
Matches 167; Conservative
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DE-----CALGRSP-
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US-09-789-919-62
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US-10-000-512-10
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                                                                                 Sequence 73, Application US/09789919
Fatent No. US20020064855A1
GENERAL INFORMATION:
APPLICANT: Lemischia, Ihor
APPLICANT: Lemischia, Ihor
APPLICANT: Lemischia, Ihor
APPLICANT: Moore, Kateri
TITLE OF INVENTION: GENES THAT REGULATE HEMATOPIETIC BLOOD FORMING STEM
TITLE OF INVENTION: CELLS AND USES THEREOF
FILE REPRENCE: 2257-1-065
CURRENT APPLICATION NUMBER: US/09/789,919
CURRENT FILING DATE: 2001-02-21
NUMBER OF SEQ ID NOS: 96
SOFTWARE: PATENTIN Ver. 2.0
SEQ ID NO 73
LENGTH: 644
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Best Local Similarity 30.0%; Pred. No. 6.3e-27;
Matches 167; Conservative 55; Mismatches 211; Indels 124; Gaps
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US-10-000-512-8
Sequence 8, Application US/10000512
; Patent No. US/0020164699A1
483 NDDRKESTMPPTEMPSS 499
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ORGANISM: Homo sapiens
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Fatent No. US2002016469941
GENERAL INFORMATION:
APPLICANT: Shinkets, Richard A
TITLE OF INVENTION: POLYPEPTIDES AND POLYNUCLEOTIDES ENCODING SAME
TITLE OF INVENTION: POLYPEPTIDES AND POLYNUCLEOTIDES ENCODING SAME
TITLE OF INVENTION UNMBER: US/10/000,512
CURRENT APPLICATION NUMBER: US/10/23
FRIOR PPLICATION NUMBER: 09/619,252
PRIOR PPLICATION NUMBER: 06/16,7,785
PRIOR FILING DATE: 1999-11-29
NUMBER OF SEQ ID NOS: 36
SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      304 GSYSCMCETGYRLAADQHRCEDVDDCILEPSPCPQRCVNTQGGFECHCYPNYDL-VDGEC
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                                            APPLICANT: Fernandes, Elma
TITLE OF INVENTION: POLYPEPTIDES AND POLYNUCLEOTIDES ENCODING SAME
FILE REFERENCE: 15966-556
CURRENT APPLICATION NUMBER: US/10/000,512
CURRENT FILING DATE: 2001-10-23
PRIOR APPLICATION NUMBER: 09/619,252
PRIOR PELING DATE: 2000-07-19
PRIOR FILING DATE: 1999-11-29
NUMBER OF SEQ ID NOS: 36
SOFTWARE: 1999-11-29
SEQ ID NO 8
LENGTH: 776
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GENERAL INFORMATION:
APPLICANT: Shimkets, Richard A
APPLICANT: Fernandes, Elma
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Best Local Similarity 31.29
Matches 85; Conservative
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Best Local Similarity
Matches 85; Conserv
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Perrara, Napoleone

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                                                                                                                                     400 CRRINYCALNYPGCEHECVNMEE-SYYCRCHRGYTLDPNGKPCSRVDHCAQQDHGCEQLC 458
                                                                                                                                                                                                    283 CAMEDHNCEQLCVNVPGSFVCECYSGYALAEDGKRCVAVDYCASENHGCEHECV-NAD-- 339
                                                                   340 GSYLCQCHEGFALNPDEKTCTKIDYCASSNHGCQYECVNTDDSYSCHCLKGFTLNPDKKT 399
                                                                                                                                                                            409 NQTACPADCDPNTQAS -- CECPEGYILDDGF - ICTDIDEC -- - ENGGFCSGVCHNLPGTF 462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        244 DCSVENGGCEHACNAIPGAPRCQCPAGAALQADGRSC-----TASATQSCNDLC 292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               293 EHFCVPNPDQPGSYSCM--CETGYRLAADQHRCEDVDDCILEPSPCPQRCVNTQGGFECH 350
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               304 GSYSCMCETGYRLAADQHRCEDVDDCILEPSPCPQRCVNTQGGFECHCYPNYDL-VDGEC
                                                                                                          ---EPHRCOMFC
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                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Rosen et al.
TITLE OF INVENTION: Nucleic Acids, Proteins, and Antibodies
FILE REFERENCE: PJZ01
CURRENT APPLICATION NUMBER: US/09/764,898
CURRENT FILING DATE: 2001-01-17
Prior application data removed - consult PALM or file wrapper
SOFTWARE: Patentin Ver. 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
12.1%; Score 352.5; DB 10; Length
Best Local Similarity 32.8%; Pred. No. 5.8e-15;
Matches 88; Conservative 33; Mismatches 92; Indels
                                                                                                        363 VEPVDPCF -- RANCEYQCQPLNQTSYLCVCAEGFAPIPH-----
                                                                                                                                                                                                                                                                         ACQC-PEGHVLRSDGKTC--AKLDSCALGDHG 535
                                                                                                                                                                                                                                                  463 ECICGPDSALVRHIGTDCDSGKVDG---GDSG 491
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Patent No. US20020090673A1
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Botstein, David
Desnoyers, Luc
Eaton, Dan L.
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LENGTH: 877
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APPLICANT:
APPLICANT:
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TITLE OF INVENTION: Secreted and Transmembrane Polypeptides and Nucleic TITLE OF INVENTION: Acids Encoding the Same FILE REFERENCE: 10466-14
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRIOR APPLICATION NUMBER: US 60/143,048
PRIOR PELING DATE: 1999-07-07
PRIOR APPLICATION NUMBER: US 60/145,698
PRIOR PILING DATE: 1999-07-26
PRIOR PLING DATE: 1999-07-28
PRIOR PLING DATE: 1999-07-28
PRIOR PPLICATION NUMBER: PCT/US99/20594
PRIOR PELING DATE: 1999-09-08
PRIOR PELING DATE: 1999-09-08
PRIOR PELING DATE: 1999-09-13
PRIOR PELING DATE: 1999-09-13
PRIOR PELING DATE: 1999-09-13
PRIOR PELING DATE: 1999-09-15
PRIOR PELING DATE: 1999-09-15
PRIOR PELING DATE: 1999-09-15
PRIOR PELING DATE: 1999-10-05
PRIOR PELING DATE: 1999-10-05
PRIOR PELING DATE: 1999-11-29
PRIOR PELING DATE: 1999-12-05
PRIOR PELING DATE: 1999-12-02
PRIOR PELING DATE: 1999-12-02
PRIOR PELING DATE: 1999-12-02
PRIOR PELING DATE: 1999-12-06
PRIOR PELING DATE: 1999-12-07
PRIOR PELING DATE: 1999-12-06
PRIOR PELING DATE: 1999-12-06
PRIOR PELING DATE: 1999-12-06
PRIOR PELING DATE: 1999-12-07
PRIOR PELING DATE: 1999-12-07
PRIOR PELING DATE: 1999-12-07
PRIOR PELING DATE: 1990-12-07
PRIOR PE
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Grimaldi, Christopher J.
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Hillan, Kenneth, J.
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Stewart, Timothy A.
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Mather, Jennie P.
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ilvaroff, Ellen
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                                      Fong, Sherman
Sao, Wei-Qiang
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; ORGANISM: Homo sapiens
US-09-905-291A-34
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Best Local Similarity
Matches 85; Conserva
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LENGTH: 915
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APPLICANT: Williams, P. Mickey
APPLICANT: Wood, William, I.
TITLE OF INVENTION: Secreted and Transmembrane Polypeptides and Nucleic
TITLE OF INVENTION: Acids Encoding the Same
                                                                                           340 GSYLCQCHEGFALNPDEKTCTRINYCALNKPGCEHECVNMEESYYCRCHRGYTLDPNGKT 399
                                                                                                                                                                                         DC-DPNTQASCECPEGYIL-DDGFICTDIDECENGGF-CSGVCHNLPGTFECICGPDSAL 472
GSYSCMCETGYRLAADQHRCEDVDDCILEPSPCPQRCVNTQGGFECHCYPNYDL-VDGEC 362
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CURRENT APPLICATION NUMBER: US/09/909,320

CURRENT FILING DATE: 2002-01-04

PRIOR PELICATION NUMBER: US/09/909,320

PRIOR PELING DATE: 2000-02-22

PRIOR APPLICATION NUMBER: US 60/145,698

PRIOR APPLICATION NUMBER: US 60/145,698

PRIOR APPLICATION NUMBER: US 60/146,222

PRIOR PELING DATE: 1999-07-07

PRIOR FILING DATE: 1999-07-28

PRIOR FILING DATE: 1999-07-28

PRIOR FILING DATE: 1999-09-18

PRIOR FILING DATE: 1999-09-18

PRIOR PELING DATE: 1999-09-18

PRIOR PELING DATE: 1999-09-13

PRIOR PELING DATE: 1999-09-13

PRIOR APPLICATION NUMBER: PCT/US99/21547

PRIOR APPLICATION NUMBER: PCT/US99/21547

PRIOR APPLICATION NUMBER: PCT/US99/21547

PRIOR PILING DATE: 1999-09-15

PRIOR FILING DATE: 1999-10-05

PRIOR FILING DATE: 1999-10-05

PRIOR FILING DATE: 1999-10-05

PRIOR FILING DATE: 1999-10-05
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Grimaldi, Christopher J.
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Hillan, Kenneth, J.
Kljavin, Ivar J.
Mather, Jennie P.
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Stewart, Timothy A.
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Filvaroff, Ellen
Fong, Sherman
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Paoni, Nicholas F.
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Goddard, A.
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APPLICANT: Ashkenazi, Avi
APPLICANT: BOSSTein, David
APPLICANT: Desnoyers, Luc
APPLICANT: Eaton, Dan L.
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516 LREDGKTC 523
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283 CAMEDHNCEQLCVNVPGSFVCQCYSGYALAEDGKRCVAVDYCASENHGCEHECV-NAD-- 339
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PRIOR APPLICATION NUMBER: PCT/US99/28313
PRIOR FILING DATE: 1999-11-30
PRIOR APPLICATION NUMBER: PCT/US99/28564
PRIOR FILING DATE: 1999-12-02
PRIOR FILING DATE: 1999-12-02
PRIOR FILING DATE: 1999-12-02
PRIOR FILING DATE: 1999-12-06
PRIOR FILING DATE: 1999-12-16
PRIOR FILING DATE: 1999-12-16
PRIOR FILING DATE: 1999-12-16
PRIOR FILING DATE: 1999-12-20
PRIOR FILING DATE: 1999-12-20
PRIOR FILING DATE: 1999-12-20
PRIOR PRILING DATE: 1999-12-20
PRIOR PRILING DATE: 2000-01-05
NUMBER OF SEQ ID NOS: 423
SEQ ID NO 34
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Godowski, Paul J.
Grimaldi, Christopher J.
Gurney, Austin L.
Hillan, Kenneth, J.
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Filvaroff, Ellen
Fong, Sherman
Gao, Wei-Oiang
Gerber, Hanspeter
Gerritsen, Mary E.
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34.3%;
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APPLICANT: Genentech, Inc.
APPLICANT: Ashkenazi, Avi
APPLICANT: Botstein, David
APPLICANT: Desnoyers, Luc
APPLICANT: Eaton, Dan L.
                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match 12.0°
Best Local Similarity 34.3°
Matches 85; Conservative
                                                                                                                                                                                                                                                                                                                                                              ; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-909-320-34
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516 LREDGKTC 523
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US-09-909-088B-34
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APPLICANT
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Pan, James Paoni, Nicholas F. Roy, Margaret Ann Stewart, Timothy A.

Kljavin, Ivar J. Mather, Jennie P.

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14;
                                                      TITLE OF INVENTION: Secreted and Transmembrane Polypeptides and Nucleic TITLE OF INVENTION: Acids Encoding the Same
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                                                                                                 TITLE DEFENDER 10466-14

CURRENT APPLICATION NUMBER: US/09/909,088B

CURRENT FILING DATE: 2001-07-18

PRIOR FILING DATE: 2000-02-22

PRIOR FILING DATE: 1999-07-07

PRIOR PLING DATE: 1999-07-26

PRIOR PLING DATE: 1999-07-26

PRIOR PLING DATE: 1999-07-26

PRIOR PLING DATE: 1999-07-26

PRIOR APPLICATION NUMBER: US 60/145,698

PRIOR PRILING DATE: 1999-07-26

PRIOR PRILING DATE: 1999-07-26

PRIOR PRILING DATE: 1999-09-18

PRIOR PRILING DATE: 1999-09-18

PRIOR PLING DATE: 1999-09-13

PRIOR PLING DATE: 1999-09-13

PRIOR PLING DATE: 1999-09-13

PRIOR PLING DATE: 1999-09-15

PRIOR PLING DATE: 1999-09-15

PRIOR PLING DATE: 1999-09-15

PRIOR PLING DATE: 1999-10-05

PRIOR PLING DATE: 1999-11-29

PRIOR PLING DATE: 1999-11-29

PRIOR PLING DATE: 1999-11-29

PRIOR PLING DATE: 1999-11-29

PRIOR PLING DATE: 1999-11-20

PRIOR PLING DATE: 1999-12-02

PRIOR PLING DATE: 1999-12-02

PRIOR PLING DATE: 1999-12-02

PRIOR PLING DATE: 1999-12-02

PRIOR PLING DATE: 1999-12-03

PRIOR PLING DATE: 1999-12-06

PRIOR PLING DATE: 1999-12-07

PRIOR PLING DATE: 1999-12-07
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PRIOR PLILING DATE: 1999-109-15
PRIOR PLILING DATE: 1999-10-15
PRIOR PLILING DATE: 1999-10-05
PRIOR PLILING DATE: 1999-11-29
PRIOR PLILING DATE: 1999-11-29
PRIOR PLILING DATE: 1999-11-30
PRIOR PLILING DATE: 1999-11-30
PRIOR PLILING DATE: 1999-11-30
PRIOR PLILING DATE: 1999-12-02
PRIOR PLILING DATE: 1999-12-16
PRIOR PLILING DATE: 1999-12-20
PRIOR PLILING DATE: 1999-12-30
PRIOR PLILING DATE: 2000-01-05
NUMBER OF SEQ ID NOS: 423
SEQ ID NO 34
LENGTH: 915
Williams, P. Mickey
Wood, William, I.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
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Best Local Similarity
Matches 85; Conserv
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LREDGKTC 523
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Methods of Diagnosing Breast Cancer, Com
Cancer Modulators
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Sequence 16, Application US/09898570

Patent No. US20020123612A1

GENERAL INFORMATION:

APPLICANT: GERLACH, VALERIE L.

APPLICANT: ELLERANN, KAREN

APPLICANT: MACDOUGALL, JOHN R.

CURRENT ELLING OF USING THE SAME

CURRENT FILING DATE: 2001-07-03

PRIOR APPLICATION NUMBER: 60/198, 293

PRIOR APPLICATION NUMBER: 60/198, 645
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     182 PGAAAAAVSITYGTPFAARGADFQALPVGSSAAVAPLGLQLMCTAPPGAVQGHWARE--- 238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  292 -CEHFCVPNPDQPGSYSCMCETGYRLAADQHRCEDVDDCILEPSPCPQRCVNTQGGFECH 350
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            239 --APGAWDCSVENGGCEHA---CNAIPGAPRCQCPAGAALQADGRSCTASATQSCNDL-- 291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                214 ILTCNHGNGGCQHSCDDTADGPECSCHPQYKMHTDGRSCLEREDTVLEVTESNTTSVVDG 273
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         274 DKRVKRRLLAMETCAVNNGGCDRTCKDTSTGVHCSCPVGFTLQLDGKTCKDIDECQTRNGG 333
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ------DSALVRHIGT---DCDSG 483
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels 154;
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches 125;
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 333; DB 10;
Pred. No. 1.1e-13;
                                                           APPLICANT: G1sh, Kurt
APPLICANT: G1sh, Kurt
APPLICANT: Mack, David
TITLE OF INVENTION: No. US20020006616A1e1 Meth
TITLE OF INVENTION: Screening for Breast Cano;
FILE REFERENCE: A-69028/DJB/JJD
CURRENT APPLICATION NUMBER: US/09/747,371
CURRENT FILING DATE: 2000-12-21
PRIOR APPLICATION NUMBER: PCT/ US/00/06952
NUMBER OF SEQ ID NOS: 4
SOFTWARE: PatentIn version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  395 -APIPHEPHRCQMFCNQTA------
Sequence 2, Application US/09747371
Patent No. US20020006616A1
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
11.4%; Sco
Best Local Similarity 25.5%; Pre
Matches 107; Conservative 34;
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US-09-747-371-2
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US-09-898-570-16
                                                                                                                                                                                                                                                                                                                                        LENGTH: 999
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APPLICATION NUMBER: US/09/898,570
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Patent NO. US20020123612A1
GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: GERLACH, VALERIE L. .
APPLICANT: ELLERMAN, KAREN
APPLICANT: EMITHEON, GLENNDA
TITLE OF INVENTION: NOVEL HUMAN PROTEINS, POLYNUCLEOTIDES ENCODING THEM AND
TITLE OF INVENTION: METHODS OF USING THE SAME
FILE REFERENCE: 15966-776CIP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      14;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         291 LCEHFCVPNPDQPGSYSCMCETGYRLAADQHRCEDVDDCILEPSPCPQRCVNTQGGFECH 350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  351 CYPNYDLVDGE--CVEPVDP---CFRAN--CEYQCQPLNQTSYLCVCAEGFAPIPHEPHR 403
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      11.3%; Score 328.5; DB 10; Length 1009; 25.6%; Pred. No. 2e-13; tive 34; Mismatches 126; Indels 101;
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US-09-898-570-16
PRIOR FILING DATE: 2000-04-20
PRIOR APPLICATION NUMBER: 60/210,809
PRIOR FILING DATE: 2000-06-09
PRIOR FILING DATE: 2000-06-09
PRIOR FILING DATE: 2000-04-26
PRIOR FILING DATE: 2000-04-26
PRIOR FILING DATE: 2000-04-26
PRIOR PLING DATE: 2000-04-26
PRIOR FILING DATE: 2000-04-26
PRIOR FILING DATE: 2000-08-11
PRIOR FILING DATE: 2000-08-12
PRIOR FILING DATE: 2000-04-26
PRIOR FILING DATE: 2000-04-26
PRIOR FILING DATE: 2000-04-26
PRIOR PELICATION NUMBER: 60/219,880
PRIOR FILING DATE: 2000-04-26
PRIOR PELING DATE: 2000-07-17
PRIOR FILING DATE: 2000-07-03
PRIOR FILING DATE: 2001-02-27
PRIOR FILING DATE: 2001-02-19
PRIOR FILING DATE: 2001-04-19
NUMBER OF SED ID NOS: 58
SED ID NO 16
LENGTH: 1009
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Matches 90; Conservative
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US-09-898-570-14
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257 AVNNGGCDSKCHDAATGVHCTCPVGFMLQPDRKTCKDIDECRLNNGGCDHICRNTVGSFE 316
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  --NQTACPADC-DPNTQASCECPEGYILD-DGFICTDIDECE-NGGFCSGVCHNLPGTFE
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Patent No. Us20020090672A1
GENERAL INFORMATION:
APPLICANT: Rosen et al.
TITLE OF INVENTION: Nucleic Acids, Proteins, and Antibodies
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ouery Match 11.2%; Score 327.5; DB 10; Length Best Local Similarity 26.7%; Pred. No. 2.3e-13; Matches 81; Conservative 32; Mismatches 113; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             OTHER INFORMATION: Description of Unknown Organism: POLYX CHER INFORMATION: 297832_B_1 US-09-898-570-14
CURRENT FILING DATE: 2001-07-03
PRIOR FILING DATE: 2001-07-03
PRIOR FILING DATE: 2000-04-19
PRIOR FILING DATE: 2000-04-19
PRIOR FILING DATE: 2000-04-20
PRIOR FILING DATE: 2000-06-09
PRIOR FILING DATE: 2000-04-26
PRIOR PRIO
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US-09-764-853-800
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NAME/KET: SITE
CCATION: (197)
OTHER INFORMATION: Xaa equals any of the naturally occurring L-amino acids
LOCATION: (201)
OTHER INFORMATION: Xaa equals any of the naturally occurring L-amino acids
NAME/KEY: SITE
LOCATION: (687)
OTHER INFORMATION: Xaa equals any of the naturally occurring L-amino acids
CCATION: (687)
OTHER INFORMATION: Xaa equals any of the naturally occurring L-amino acids
US-09-764-853-800
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INFORMATION: Xaa equals any of the naturally occurring L-amino acids
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             293 EHFCVPNPDQPGSYSCM--CETGYRLAADQHRCEDVDDCILEPSPCPQRCVNTQGGFECH 350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         351 CYPNYDLVDGECVEPVDPCFRANC -- EYQCQPLNQTSYLCV -- CAEGFAPIPH----- 399
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FILE REFERENCE: PJZ06
CURRENT APPLICATION NUMBER: US/09/764,853
CURRENT FILING DATE: 2001-01-17
Prior application data removed - consult PALM or file wrapper NUMBER OF SEQ ID NOS: 939
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 800
LENGTH: 800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 272, Application US/09764898
Patent No. US20020090673A1
GENERAL INFORMATION:
APPLICANT: Rosen et al.
TITLE OF INVENTION: Nucleic Acids, Proteins, and Antibodies
FILE REFERENCE: PUZO1
CURRENT APPLICATION NUMBER: US/09/764,898
FILE APPLICATION NUMBER: US/09/764,898
FILE APPLICATION NUMBER: US/09/764,898
FILE APPLICATION DATE: 2001-01-17
Prior application data removed - consult PALM or file wrapper NUMBER OF SEQ ID NOS: 311
SOFTWARE: PatentIn Ver. 2.0
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ORGANISM: Homo sapiens
FEATURE:
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Matches 86; Conserva
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LOCATION: (201)
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US-09-764-898-272
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LENGTH: 800
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; OTHER INFORMATION: Xaa equals any of the naturally occurring L-amino acids US-09-764-898-272
                                                                                                      244 DCSVENGGCEHACNAIPGAPRCQCPAGAALQADGRSC------TASATQSCNDLC 292
                                                                                                                           293 EHFCVPNPDQPGSYSCM--CETGYRLAADQHRCEDVDDCILEPSPCPQRCVNTQGGFECH 350
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                                                                             Indels 56;
                                                Length 800;
                                             11.2%; Score 326; DB 10; 32.0%; Pred. No. 2.3e-13; Live 35; Mismatches 92;
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Search completed: December 16, 2002, 17:33:05 Job time: 13.5 secs

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December 16, 2002, 17:19:38; Search time 34.5 Seconds (without alignments) 1992.966 Million cell updates/sec
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Maximum Match 100%
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5. SIDS2/gcgdata/geneseq/geneseqp-embl/AA1984.DAT:*
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ALIGNMENTS

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMAKIES	gth DB ID Description	20 AAY09348	21 7	13 AAR22016	20 AAY09347	21 AAY83934	516 21 AAY69529 Human thrombomodul	12 AAR11534		14 AAR43031 E	23 AAE23026
	Query Match Length DB	516 2	516 2	516 1	516 2	516 2	516 2	575 1	575 1	575 1	575 2
ď	Query Match	100.0	100.0	6.66	6.66	6.66	6.66	6.66	99.9	6.66	6.66
	Score	2916	2916	2912	2912	2912	2912	2912	2912	2912	2912
	Result No.	1	7	m	4	S	9	7	æ	6	10

Stable aqueous parenteral thrombomodulin solution - comprising

WPI; 1999-277444/23. N-PSDB; AAX55880.

Human full-length	Soluble thrombomod	Human thrombomodul	Human thrombomodul	Human thrombomodul	Human thrombomodul	Human urinary thro	Human thrombomodul	Sequence of thromb	Human derived thro	Thrombomodulin TME	Novel sugar chain-	Human recombinant	Human thrombomodul	rsTM protein SEQ I	Human thrombomodul																			
AAE17521	AAR10617	AAP82070	AAR22018	AAR31572	AAR22017	AAR20639	AAW73970	AAR22189	AAR84185	AAW01600	AAY67402	AAR94607	AAE23028	AAE23031	AAE17525	AAE17528	AAE17523	AAE17596	AAW69520	AAE17530	AAE17598	AAE23029	AAE17526	AAE23030	AAE17527	AAE17529	AAE17593	AAE17595	AAE17597	AAE17591	AAE17592	AAE17594	AAE17524	AAE23027
23	12	0	13	14	13	13	20	13	16	18	21	11	23	23	23	23	23	23	19	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23
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6.66	8.66	8.66	7.66	7.66	9.66	9.66	98.7	98.1	6.96	6.96	6.96	8.96	8.96	8.96	8.96	8.96	8.96	2.96	2.96	6.7	2.96	2.96	2.96	9.96	96.6	ė.	9	9	٠.	ė.	9		9.96	96.4
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11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	56	27	28	58	30	31	32	33	34	32	36	37	38	39	40	41	42	43	44	45

Human; thrombomodulin; aqueous parenteral solution; storage; distribution; acute coronary syndrome; thrombosis; embolism; diabetes. Ξ Murata T, Shimizu H, Tsuruta K, Yokozawa A, Yui AAY09348 standard; Protein; 516 AA Human thrombomodulin SEQ ID NO:2. (ASAH) ASAHI KASEI KOGYO KK 98WO-JP04609. 97JP-0308523. 97JP-0281659. (first entry) Homo sapiens. WO9918994-A1 11-NOV-1997; 15-OCT-1997; 08-JUL-1999 13-0CT-1998; 22-APR-1999 AAY09348; RESULT 1 AAY09348

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(first entry)

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28-JUL-2000
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                                                                        an aqueous parenteral solution of thrombonodulin comprising buffer and surfactant aseptically filled in a case or syringe. Maintaining the quality of an aqueous, parenteral thrombomodulin solution is characterised in that the solution: (a) comprises soluble thrombomodulin, a buffer to maintain the pH at 5-7 and a surfactant; (b) is aseptically filled into: (i) a case or (ii) a syringe without any empty space; and (c) is kept in liquid form in storage and distribution and not frozen or freeze dried. Thrombomodulin is used to treat acute coronary syndrome (such as mycorafdal infarction, unstable angina and coronary artery blockage), thrombosis (e.g. cerebral, vascular and peripheral blood vessel thrombosis), embolism, peripheral blood vessel thrombosis), arteriosclerosis, vasculitis (e.g. due to systemic lupus erythematosus or Barrett's syndrome), multiple organ failure, disseminated intravascular coagulation, transient ischaemia, diabetes, liver veno-occlusive diseases and deep vein thrombosis. The composition is stable for a long period of time and can be stored and distributed in ready to use form avoiding the problems of dissolution and accuracy when thrombomodally.
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                                                               present invention describes a method for maintaining the quality of
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DSGKVDGGDSGSGEPPPSPTPGSTLTPPAVGLVHSG
                                     Claim 7; Page 90-92; 97pp; Japanese.
              thrombosis, embolism, and diabetes
                                                                                                                                                                                                                                                                                                                                      516 AA;
                                                                                                                                                                                                                                                                                                              thrombomodulin.
 and
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This sequence represents a human thrombomodulin protein. The invention relates to a treating agent for vasculitis containing a peptide which promotes activation of protein C by thrombin.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       21; Length 516;
                                                                                                                                                                                                                                                                                                                                                                                                              vasculitis contains peptide which promotes
                                            thrombomodulin; vasculitis; protein C; thrombin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                100.0%; Score 2916; DB 21;
ilarity 100.0%; Pred. No. 7.8e-163;
Conservative 0; Mismatches 0;
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Human thrombomodulin TMD protein #2.
                                                                                                                                                                                                                                                                                                                                                                                                            Treating agent for vasculitis contai activation of protein C by thrombin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Claim 4; Page 13-14; 18pp; Japanese
                                                                                                                                                                                                                                                                                                    (ASAH ) ASAHI KASEI KOGYO KK
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N-PSDB; AAA10028.
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Matches 516; Conserv
                                                                                                                           JP2000053582-A.
                                                                                      Homo sapiens
                                                                                                                                                                                                                  06-AUG-1998;
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AAY83935 standard; Protein; 516

AAY83935 ID AAY839 XX

301 AAY09347 g g à 셤 ò ð ö Plasmid Mi3mpl9TMJ3 (see AAR22013) was used as template for site-directed mutagenesis. A 177bp fragment was deleted using the "TMd1 deleter" oligonucleotide to give plasmid Mi3TMD1 which encodes the first 516 N-terminal amino acids of human thrombomodulin. Plasmid Mi3TMD1 was completely digested with HindIII and BamHI and a TMD1 fragment of ca. 1700bp was isolated. The fragment was ligated to HindIII- and BglII-cut plasmid pSV2-dhfr to give the recombinant plasmid pSV2TMD1. See AAR22014-R22022 and AAQ25072. 240 DQPGSYSCMCETGYRLAADQHRCEDVDDCILEPSPCPQRCVNTQGGFECHCYPNYDLVDG 360 TVRSSVAADVISLLLNGDGGVGRRRLWIGLQLPPGCGDPKRLGPLRGFQWVTGDNNTSYS 120 RWARLDLNGAPLCGPLCVAVSAAEATVPSEPIWEEQQCEVKADGFLCEFHFPATCRPLAV 180 240 GAWDCSVENGGCEHACNAIPGAPRCQCPAGAALQADGRSCTASATQSCNDLCEHFCVPNP 300 Gaps **EPGAAAAVSITYGTPFAARGADFQALPVGSSAAVAPLGLQLMCTAPPGAVQGHWAREAP** ö New polypeptide inhibits blood coagulation and platelet aggregation - promotes thrombin catalysed protein C activation for treating myocardial infarction, thrombosis, embolism, etc. Query Match 99.9%; Score 2912; DB 13; Length 516; Best Local Similarity 99.8%; Pred. No. 1.3e-162; Matches 515; Conservative 0; Mismatches 1; Indels 0 Truncated human thrombomodulin encoded by plasmid pSv2TMD1. Matsuda A; deleter Thrombin binding site; blood clotting; TMd1 Suzuki K, Example 1; Page 17; 112pp; English. AAR22016 standard; Protein; 516 AA Yamamoto S, 91EP-0202009 90JP-0204978 03-JUL-1992 (first entry) (ASAH) ASAHI KASEI KOGYO WPI; 1992-081820/11 516 AA; Zushi M, Gomi K, 05-AUG-1991; 03-AUG-1990; Homo sapiens 11-MAR-1992 EP474273-A. Sequence AAR22016; 61 121 181 241 301 RESULT 3 g ò 셤 à g ò Op

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The present invention describes a method for maintaining the quality of an aqueous parenteral solution of thrombomodulin comprising buffer and surfactant aseptically filled in a case or syringe. Maintaining the quality of an aqueous, parenteral thrombomodulin solution is characterised in that the solution: (a) comprises soluble thrombomodulin, characterised in that the solution: (a) comprises soluble thrombomodulin, a buffer to maintain the pH at 5-7 and a surfactant; (b) is aseptically filled into: (l) a case or (ii) a syringe without any empty space; and (ii) a kept in liquid form in storage and distribution and not frozen or freeze dried. Thrombomodulin is used to treat acute coronary syndrome (such as myocardial infarction, unstable angina and coronary artery blockage), thrombosis, embolism, peripheral blood vessel thrombosis, embolism, peripheral blood vessel thrombosis, embolism, peripheral blood vessel disorders (e.g. Raynaulds disease), arteriosclerosis, vascular and peripheral blood vessel thrombosis), anteriosclerosis, wascularis (e.g. due to systemic lupus erythematosus or Barrett's syndrome), multiple origan failure, disseminated intravascular coaquiation, transient ischaemia, diabetes, liver veno-occlusive diseases and deep vein thrombosis. The composition ready to use form avoiding the problems of dissolution and accuracy when thrombomodulin.
                                                              421 TQASCECPEGYILDDGFICTDIDECENGEFCSGVCHNLPGTFECICGPDSALVRHIGTDC 480
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DQPGSYSCMCETGYRLAADQHRCEDVDDCILEPSPCPQRCVNTQGGFECHCYPNYDLVDG
                                                                                                                                                                                                   TQASCECPEGYILDDGFICTDIDECENGGFCSGVCHNLPGTFECICGPDSALARHIGTDC
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distribution; acute coronary syndrome; thrombosis; embolism;
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97JP-0281659.
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N-PSDB; AAX55879.
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15-OCT-1997;
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                                                                   Query Match
Best Local Similarity 99.8
Matches 515; Conservative
                                                    516 AA;
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                                                                                                                                             EPGAAAAAVSITYGTPFAARGADFQALPVGSSAAVAPLGLQLMCTAPPGAVQGHWAREAP 240
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                        516;
                        Length
                                      Indels
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                      Score 2912; DB 20;
Pred. No. 1.3e-162;
0; Mismatches 1;
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                      99.98;
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N-PSDB; AAA10027.
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       516 AA
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Matches 515;
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This sequence represents a human thrombomodulin protein. The invention relates to a treating agent for vasculitis containing a peptide which promotes activation of protein C by thrombin.
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                                                                                                                                               Length 516;
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                                                                                                                                             99.9%; Score 2912; DB 21; 99.8%; Pred. No. 1.3e-162; iive 0; Mismatches 1;
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Claim 4; Page 10-12; 18pp; Japanese
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The invention relates to a novel method for the preparation of highly pure soluble thrombomodulin (TM) containing substantially no serumderived or antibody-derived substance. The method comprises isolating soluble TM from unpurified serum via affinity purification using an anti-TM antibody. The soluble TM is then treated with with a cation exchanger at a specific conductivity of 25 to 34 ms/cm and a pH of 3 to 4, and the fraction containing the soluble TM is soluble TM is soluble TM soluble TM is soluble TM sequence represents a blood anticoagulation agent and a thrombolytic agent. This sequence represents a human thrombomodulin variant, designated SEQ ID NO:3.
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241 GAWDCSVENGGCEHACNAIPGAPRCQCPAGAALQADGRSCTASATQSCNDLCEHFCVPNP 300
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                                                                                                                                                                                                                                                                                            Length 516;
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                                                           pure soluble thrombomodulin -
agent and a thrombolytic agent
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Pred. No. 1.3e-162;
0; Mismatches 1;
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                                                                                                    36pp; Japanese.
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                                                                                                                                                                                                                                                                                               99.98;
                                                                                                                                                                                                                                                                                                                         Matches 515; Conservative
                                                           Preparation of highly antiblood coagulation
                                                                                                    Claim 9; Page 30-32;
(ASAH ) ASAHI KASEI
                      WPI; 2000-101696/09.
N-PSDB; AAZ55965.
                                                                                                                                                                                                                                                                                                            Local Similarity
                                                                                                                                                                                                                                                                       516 AA;
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                                                                                                                                                                                                                                                                        Sequence
                                                                                                                                                                                                                                                                                                Query Match
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This human thrombomodulin polypeptide comprises a 115 residue active fragment with opt. flanking sequences (N'terminal= 34 amino acids). Additionally it has an N-terminal signal sequence and an attached sugar chain, contg. chondroitin or chondroitin sulphate. It promotes the activation of protein C by thrombin and has activities. It can therefore be used for treating cardiovascular diseases, eg arteriosclerosis or myocardial infarction.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GAWDCSVENGGCEHACNAIPGAPRCQCPAGAALQADGRSCTASATQSCNDLCEHFCVPNP
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      Thrombomodulin; chondroitin; protein C; thrombin; thrombolysis; chondroitin sulphate; anticoagulant; myocardial infarction.
                                                                                                                                                                                                                                                                                 New human thrombomodulin polypeptide contg. chondroitin - has anticoagulant platelet agglutination and thrombolytic activity
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 575;
                                               1..18
/label= signal peptide
19..365
/label= opt. N-terminal sequence
366..480
/label= human thrombomodulin active fragment
/label= opt. C-terminal sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 2912; DB 12;
Pred. No. 1.5e-162;
0; Mismatches 1;
                                     Location/Qualifiers
                                                                                                                                                                                                                                                                                                                  Disclosure; fig 1; 80pp; Japanese
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                                                                                                                                                                                                                                                                                                                                                                                                                                                     99.98;
99.88;
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                                                                                                                                                                                                                                              Ogawa
                                                                                                                                                                                                                        (ASAH ) ASAHI KASEI KOGYO
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity 99.8
Matches 515; Conservative
                                                                                                                                                                                                                                              Gomi K,
                                                                                                                                                                                                                                                                 WPI; 1991-117478/16
                                                                                                                                                                                                                                                                                                                                                                                                                                 575 AA;
                                                                                                                                                                                                                                              Yamamoto S,
                                                                                                                                           WO9104276-A
                                                                                                                                                              04-APR-1991
                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence
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RWARLDLNGAPLCGPLCVAVSAAEATVPSEPIWEEQQCEVKADGFLCEFHFPATCRPLAV 180
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                                                                                                                                                                                                                                                                           Transformation; fungus; blood coagulation; prevention; platelet; aggregation; thrombolytic activity; thrombolysis; human thrombomodulin; site-directed mutagenesis; promotion; protein C; activation; thrombin.
Novel polypeptides, obtd. by culturing transformed fungus, have blood coagulation preventing, platelet aggregation preventing and thrombolytic activities.

In an example, plasmid Mismpl9FWD3 (constructed from pSV2TWJ2 (ATCC 67238) contg. a human thrombomodulin sequence) was subjected to site directed mutagenesis to prepare pSV2TWD7. Plasmid pSV2TWD7 was transfected to COS-1 cells. The activity of promoting protein C activation by thrombin of the peptide produced by the transformed COS-1 cell was measured. The amt. of the peptide was determined.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RWARLDLNGAPLCGPLCVAVSAAEATVPSEPIWEEQQCEVKADGFLCEFHFPATCRPLAV 180
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                                     TQASCECPEGY ILDDGFICTDIDECENGGFCSGVCHNLPGTFECICGPDSALARHIGTDC
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                                                                                     DSGKVDGGDSGSGEPPPSPTPGSTLTPPAVGLVHSG 516
                                                                                                  0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Disclosure; Fig 55; 65pp; Japanese.
                                                                                                                                                                           AAR41806 standard; peptide; 575 AA.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Novel polypeptide obtd. by
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515; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           thrombolytic activities
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       575 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                coagulation
                                                                                                                                                                                                                                                      Thrombomodulin.
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                                                                                                                                                                                                                                                                                                                                                     JP05213998-A.
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                                                                                                                                                                                                                            30-MAR-1994
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GAWDCSVENGGCEHACNAIPGAPRCQCPAGAALQADGRSCTASATQSCNDLCEHFCVPNP
                                                                                                                        DQPGSYSCMCETGYRLAADQHRCEDVDDCILEPSPCPQRCVNTQGGFECHCYPNYDLVDG
                                                                                                                                                                                   ECVEPVDPCFRANCEYQCQPLNQTSYLCVCAEGFAPIPHEPHRCQMFCNQTACPADCDPN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Peptide with anticoagulant and platelet aggregation inhibitor activity - which promotes protein C activation by thrombin and useful in treating coagulation disorders e.g. thrombosis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Anticoagulant; platelet aggregation inhibitor; protein C; activation; thrombin; thrombomodulin; coagulation disorder; thrombomosis; myocardial infarction; embolism; telangiemphraxis; arteriosclerosis obliterans; disseminated intravascular coagulation; DIC; angina pectoris;
                                                                                                                                                                                                                                                                                                           516
                                                                                                                                                                                                                                                                                                                           481 DSGKVDGGDSGSGEPPPSPTPGSTLTPPAVGLVHSG
                                                                                                                                                                                                                                                                                                           DSGKVDGGDSGSGEPPPSPTPGSTLTPPAVGLVHSG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human thrombomodulin.
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TQASCECPEGYILDDGFICTDIDECENGGFCSGVCHNLPGTFECICGPDSALARHIGTDC 480
                                                                                                                            Festoff BW, Morser MJ;
                                                                                                                                           WPI; 2002-415551/44.
                                                                                                             (SCHD ) SCHERING AG.
                                                                                                                                                                                                                                                                                      575 AA;
                                                                                                                                                   N-PSDB; AAD36901
                                                           07-MAR-2002
                                                                                                                                                                                                                                                                                      Sequence
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                                                                                                              ECVEPVDPCFRANCEYOCOPLNQTSYLCVCAEGFAPIPHEPHRCQMFCNQTACPADCDPN 420
                                                           Gaps
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                                                                                                       61 TVRSSVAADVISLLLINGDGGVGRRRLWIGLQLPPGCGDPKRLGPLRGFQWVTGDNNTSYS
                                                                          1 MLGVLVLGALALAGIGFPAPAEPQPGGSQCVEHDCFALYPGPATFLNASQICDGLRGHLM
                                                                                  1 MLGVLVLGALALAGLGFPAPAEPQPGGSQCVEHDCFALYPGPAFFLNASQICDGLRGHLM
                                                                                                                                                                                                                                                                                                                                                                                                                             Human; thrombomodulin; analogue; neurologic trauma; vulnerary;
spinal cord injury; neurological damage; therapy; tranquilliser;
neuroprotective.
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arteriosclerosis obliterans, disseminated intravascular coagulation, angina pectoris, gestosis and transient ischaemic
                                            Length 575;
                                                            Indels
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1..18
/label= Signal_peptide
19..575
10..575
11..226
                                           Score 2912; DB 14;
Pred. No. 1.5e-162;
0; Mismatches 1;
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/note= "6 EGF-like domain"
463..497
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                                             99.98;
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                                                    Best Local Similarity 99.8
Matches 515; Conservative
                              575 AA;
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                                Sequence
                                              Query Match
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RWARLDLNGAPLCGPLCVAVSAAEATVPSEPIWEEQQCEVKADGFLCEFHFPATCRPLAV 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           The invention relates to a method of using thrombomodulin analogues in the treatment of the neurologic trauma associated with spinal cord injury in mammals. The method involves administering a oxidation resistant, soluble, recombinant thrombomodulin analogue, where the methionine at position 388 has been replaced with a leucine, and the analogue is numbered in accordance with native thrombomodulin. The method and thrombomodulin analogue are useful for treating neurological damage resulting from spinal cord injury in human. The present sequence is human thrombomodulin protein.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Treating neurological damage resulting from spinal cord injury in humans by administering a soluble, recombinant thrombomodulin analog which is resistant to oxidation
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"O-linked glycosylation site"
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Pred. No. 1.5e-162;
0; Mismatches 1;
         498..521
/note= "Transmembrane domain"
522..557
                                                                                   'note= "Cytoplasmic domain"
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Best Local Similarity 99.8%;
Matches 515; Conservative
                                                                                                                                                                                                                                                                   31-AUG-2000; 2000US-229714P.
23-AUG-2001; 2001US-0938405.
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Homo sapiens
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                                                                                                                                                                   Sequence
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Human; thrombomodulin; TM analogue; protein C; thrombotic disease; antithrombotic therapy; thrombin-activatable fibrinolysis inhibitor: TAFI; myocardial infarction, disseminated intravascular coagulation; DIC; deep vein thrombosis; septic shock; pulmonary embolism; angina; acute respiratory distress syndrome; cancer; toxaemia; septicaemia; circulatory disorder; coronary embolism; embolism; stroke; systemic coagulation disorder; immunosuppressive; cerebroprotective; pregnancy; anticoagulant; thrombolytic; venous occlusive condition;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Thrombomodulin analog with greater ability to potentiate thrombin-mediated activation of protein C and lesser ability to potentiate thrombin-mediated activation of thrombin-activatable fibrinolysis inhibitor for treating thrombotic disease
                                                                                                                                                                                                                                                                                                                                                                                                                  "O-linked glycosylation site"
                                                                                                                                                                                                                                                                                                                                                      "Human mature thrombomodulin"
                               516
                                           Human full-length native thrombomodulin (TM).
                                                                                                                                                                                                                                                                                                                                                                                                                            516..539
/label= Transmembrane_domain
                                                                                                                                                                                                                                                                                                                                                                                              /note= "6 EGF-like domains'
481..515
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/label= Cytoplasmic_domain
                                DSGKVDGGDSGSGEPPPSPTPGSTLTPPAVGLVHSG
                                                                                                                                                                                                                                                                                                                                                                19..244
/label= N-terminal_domain
                                                                                                                                                                                                                                                                                                                                  label= Signal_peptide
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                                                                                                      AAE17521 standard; Protein; 575
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12-JUN-2001; 2001US-0880484.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      20-JUN-2001; 2001WO-US19590
                                                                                                                                               (first entry)
                                                                                                                                                                                                                                                                                                                                                                                     245..480
                                                                                                                                                                                                                                                                                                                                           19..575
/note= "
                                                                                                                                                                                                                                                                      antibacterial; cardiant
                                                                                                                                                                                                                                                                                                                                                                                                                    "note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Morser MJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WPI; 2002-154622/20.
N-PSDB; AAD28182.
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                                                                                                                                                                                                                                                                                                                                                                                                        Modified-site
                                                                                                                                                                                                                                                                                            Homo sapiens
                                                                                                                                               22-APR-2002
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                                                                                                                          AAE17521;
                                                                                                                                                                                                                                                                                                                         Peptide
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                                                   481
           421
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                                                                                  RESULT 11
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administering it or a polynucleotide encoding it to the patient and administering it or a polynucleotide encoding it to the patient and attressing the analogue in vivo. Composition comprising TM analogue is useful for treating a thrombotic disease or condition in mammals. TM analogue is useful in antithrombotic therapy. TM analogue is also useful for treating diseases in which thrombus formation plays a significant circledical role including myocardial infarction, disseminated intravascular coagulation (DIC), deep vein thrombosis, septic shock, pulmonary embolism, acute respiratory distress syndrome, unstable angina and other arterial or venous occlusive conditions. TM analogue is also useful for treating various circulatory disorders including coronary or pulmonary embolism, stroke and systemic coagulation disorders including DIC which is often associated with septicaemia, certain cancers and toxaemia of pregnancy. The present sequence is human full-length native
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               420
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61 TVRSSVAADVISLLLKNGDGGVGRRRLWIGLQLPPGCGDPRRLGPLRGFQWVTGDNNTSYS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121 RWARLDLNGAPLCGPLCVAVSAAEATVPSEPIWEEQQCEVKADGFLCEFHFPATCRPLAV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           24.1 GAWDCSVENGGCEHACNAIPGAPRCQCPAGAALQADGRSCTASATQSCNDLCEHFCVPNP
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 575;
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Matches 515; Conservative
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DQPGSYSCMCETGYRLAADQHRCEDVDDCILEPSPCPQRCVNTQGGFECHCYPNYDLVDG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       N-PSDB; AAP82026
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 09-JUN-1988;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         12-JUN-1987;
                                                                                                                                                                                                                                                                                               19-0CT-1990
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                                                                                                                                                                                                                                                                                                                                                                                                                          The sequence is that of a sol. thrombomodulin deriv. comprising the signal peptide (optional), N-terminal, epidermal growth factor homology region and the Ser/Thr-rich region, but lacking the transformed region and the Ser/Thr-rich region, but lacking the transformed region and the Ser/Thr-rich region, but lacking the transformed region and the sequence was deduced but obtd. From clone GHTW3A isolated from a human chromosome 20 library, subcloned into pucig to give pGHTW3A. A PPU MI fragment of this vector was ligated with a linker to construct pucinswift was treated with BsmI to delete about 500 bp from the 3' end of the gene. ( The deletion occurs at the Ser/Thr-rich/transmembrane domain junction, effectively cleaving the transmembrane and cytoplasmic domains.) The plasmid was recircularised to give pucilTHWD for use in prodn of the recombinant sol. deriv. The protein reacts with thrombin to activate the Protein C anticoagulant pathway, inhibit thrombin, and can be used to treat or prevent thrombotic disorders.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
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/label= signal peptide
//note= "for low mol. wt deriv.; optionally present"
1..18
/label= signal peptide
//note= "for high mol wt. deriv; optionally present"
                                                                                                                                                                                                                                                                                                                                           New soluble thrombomodulin derivatives – produced by recombinant DNA techniques for use as anticoagulants and in treatment of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
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                                                                                                                                                                                                                                                                        Parkinson JF;
                                                                                                                                                                                                                                                                        Hoskins JA, Moore RE,
         Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                      Claim 2; Page 45; 81pp; English
                                                                                                                                                                          90EP-0308826.
                                                                                                                                                                                                       90US-0474870.89US-0393617.
                                                                                                                                                                                                                                                                          Bang NU, Grinnell BW,
                                                                                                                                                                                                                                                (ELIL ) ELI LILLY & CO
                                                                                                                                                                                                                                                                                                     WPI; 1991-045960/07.
N-PSDB; AAQ10435.
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11-AUG-1989;
                                                                                                                                                                            10-AUG-1990;
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                                                                                                                                                                                                                                                                                                                                                                               thrombosis
                                                                                                                         EP412841-A.
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              Key
Peptide
                                                                  Peptide
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121 RWARLDLNGAPLCGPLCVAVSAAEATVPSEPIWEEQQCEVKADGFLCEFHFPATCRPLAV 180
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                                                                                                       421 TQASCECPEGYILDDGFICTDIDECENGGFCSGVCHNLPGTFECICGPDSALARHIGTDC 480
                                                                                   480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Protein is encoded by plasmid p2.1 derived from human cell line A549 known to express about 10000 molecules of thrombomodulin per cell. Plasmid p2.1 showed a strong hypridisation signal with a 60-mer bovine thrombomodulin probe. Thrombomodulins are used to potentiate a patient's anticoagulant capacity. See also AAN82027 and AAN82037.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Recombinant protein having thrombomodulin activity .
used in the therapeutic control of coagulation and the treatment
and prevent of thrombotic episodes
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        thrombomodulin activity; Protein C; anticoagulant; epidermal Growth Factor (EGF) domains.
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Pred. No. 1.9e-162;
0; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human thrombomodulin encoded by plasmid p2.1
                                                                                                                                                                     DSGKVDCGDSGSGEPPPSPTPGSTLTPPAVGLVHS 515
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                                                                                                                                                                                                                                                                                                                       AAP82070 standard; protein; 575
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Best Local Similarity 99.8%;
Matches 515; Conservative
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                                                                                                                                    ECVEPVDPCFRANCEYQCQPLNQTSYLCVCAEGFAPIPHEPHRCQMFCNQTACPADCDPN 420
                                                                                                                                                                       TQASCECPEGYILDDGFICTDIDECENGGFCSGVCHNLPGTFECICGPDSALARHIGTDC 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Plasmid MIJTMD1 (see AAR22016) encoding the first 516 N-terminal amino acids of human thrombomodulin was used as a template for site-directed mutagensis using the "TWMD mutator" to produce plasmid MIJTMM2. In the mutant thrombomodulin encoded by the plasmid, the wild-type Asp residue at position 367 is substituted thrombomodulin (1.e. D123Glu) in the activation of protein C was compeared to that of similarly truncated thrombomodulin with Asp at position 367 (i.e. D123Asp). The activity of D123Glu was as high as 1,2 times that of D123Asp. See AAR22013-R22022 and AAQ25074.
                                                                        EPGAAAAAVSITYGTPFAARGADFQALPVGSSAAVAPLGLQLMCTAPPGAVQGHWAREAP
                                                              GAWDCSVENGGCEHACNAIPGAPRCQCPAGAALQADGRSCTASATQSCNDLCEHFCVPNP
                                                                                                 DQPGSYSCMCETGYRLAADQHRCEDVDDC1LEPSPCPQRCVNTQGGFECHCYPNYDLVDG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           New polypeptide inhibits blood coagulation and platelet aggregation - promotes thrombin catalysed protein C activation for treating myocardial infarction, thrombosis, embolism, etc.
                                                                                                                                                                                                                                                                                                                                              Mutant; thrombin binding site; blood clotting; TMm2 mutator.
                                                                                                                                                                                                                                                                                                                            Human thrombomodulin (1-516) with Asp367 substituted by Glu.
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                                                                                                                                                                                                                     Suzuki K,
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                                                                                                                                                                                                                                                                        AAR22018 standard; Protein; 516
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                                                                                                                                                                                                                                                                                                                                                                                                                     91EP-0202009
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                                                                   1 MIGVLVLGALALAGIGFPAPAEPQPGGSQCVEHDCFALYPGPATFLNASQICDGLRGHLM
                                                                                                                                                           RWARLDLNGAPLCGPLCVAVSAAEATVPSEPIWEEQQCEVKADGFLCEFHFPATCRPLAV
                                                                                                                                                                                                                            ECVEPVDPCFRANCEYQCQPLNQTSYLCVCAEGFAPIPHEPHRCQMFCNQTACPADCDPN
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                                                                                                                                                                                                              EPGAAAAAVSITYGTPFAARGADFQALPVGSSAAVAPLGLQLMCTAPPGAVQGHWAREAP
                                                                                                                                                                                                                                                                GAWDCSVENGGCEHACNAIPGAPRCQCPAGAALQADGRSCTASATQSCNDLCEHFCVPNP
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Length 516;
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Score 2908; DB 13;
Pred. No. 2.3e-162;
1; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              516
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245..280
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...361
-- "EGF-3"
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..= "EGF-2"
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99.78;
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             Best Local Similarity
Matches 514; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Synthetic
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Search completed: December 16, 2002, 17:24:25 Job time: 35.5 secs

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                                                                                                                                                                                                                                                                                                                                                                                             1 MLGVLVLGALALAGLGFPAPAEPQPGGSQCVEHDCFALYPGPATFLNASQICDGLRGHLM 60
                                                                                                                                                                                                                                                                                                                                                                                                        The sequence is that of the native human thrombomodulin showing the six {\sf EGF-like} domains.
                                                                                                                                                                                                                            Site-specific mutagenesis of nucleic acid constructs - using an oligo:nucleotide which changes a nucleotide and introduces or
                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                  99.7%; Score 2908; DB 14; Length 575; 99.8%; Pred. No. 2.5e-162; Live 0; Mismatches 1; Indels 0
481..515
/note= "O-linked glycosylation domain"
                   516..538
//note="stop transfer sequence"
539..57
/note="cytoplasmic domain"
                                                                                                                                                                                  Andrews WH, Morser MJ, Vilander LR;
                                                                                                                                                                                                                                                                        Example; Fig 3; 87pp; English
                                                                                                                    92WO-US05573
                                                                                                                                       91US-0724237
                                                                                                                                                                                                                                                   removes a restriction site
                                                                                                                                                                                                                                                                                                                                                               Best Local Similarity 99.8
Matches 515; Conservative
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                                                                                                                                                                                                        WPI; 1993-045488/05.
                                                                                                                                                                                                                                                                                                                                                             Similarity
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                                                                                                                                         01-JUL-1991;
                                                                                                                    01-JUL-1992;
                                                                         WO9301282-A
                                                                                               21-JAN-1993
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                     Region
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DSGKVDGGDSGSGEPPPSPTPGSTLTPPAVGLVHSG 516

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TQASCECPEGYILDDGFICTDIDECENGGFCSGVCHNLPGTFECICGPDSALARHIGTDC 480

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GenCore version 5.1.3
Copyright (c) 1993 - 2002 Compugen Ltd.
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OM protein - protein search, using sw model

(without alignments) 3006.386 Million cell updates/sec December 16, 2002, 17:22:58; Search time 16.5 Seconds Run on:

US-09-509-994-2 2916 1 MLGVLVLGALALAGLGFPAP.......PSPTPGSTLTPPAVGLVHSG 516 Title: Perfect score:

BLOSUM62 Gapop 10.0 , Gapext 0.5 Scoring table: Sequence:

283224 seqs, 96134422 residues Searched: Total number of hits satisfying chosen parameters:

Minimum DB seq length: 0 Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

1: pirl:* 2: pir2:* 3: pir3:* 4: pir4:* PIR_73:* Database :

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

	h DB ID Description	1 THHUB	2 A60501 thrombomodulin	2 A25918 thrombomodulin	2 T13954	2 T27283	2 A57278	2 A55567 fibrillin I	2 A55184	2 A54105 fibrillin-	2 A47221 fibrillin 1	2 A55624 fibrillin-1	2 T46488 hypothetical	2 A49457 fibulin-2 pre	2 T09059	2 T43210	2 A38261 masking protein	2 T42760 fibulin, sp	2 T42990 fibulin 1, s	2 A35626 transformin	2 S78549 notch3 prote	2 T34513	2 T22793 hypoth	2 A55494 latent transf	7	2 C36346 fibulin 1	2 S78040 fibulin, s	2 S34968 fibulin		
								~	~	7	7			7	7	7	7			7	7									
	Length	575	577	356	1574	1620	2907	2871	1184	2918	3002	2871	741	1221	1964	589	1712	689	712	1394	2321	3507	798	1820	601	683	685	705		1671
& Ouery	_ !	6	65.3	37.6	14.2	14.2	12.8	12.6	12.6	12.6	12.5	12.4	12.2	12.2	11.4	11.4	11.3	11.1	11.1	11.1	11.0		10.7			10.7	10.6	10.6	•	4.0
	Score	2912	1903	1095.5	414	414	374	368	367.5	366	364	362	357	357	332.5	331	330.5	324.5	324.5	322.5	321	314.5	313	312.5	311	311	309	308	200	0.000
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cell-fate determin	Notch homolog prot	transmembrane prot	notch protein - fr	notch 3 protein -	extracellular prot	notch protein homo	hypothetical prote	epidermal growth f	notch protein homo	epidermal growth f	Motch B protein -	notch homolog - se	xotch protein - Af	growth potentiatin	growth arrest-spec
A49128	T30201	S42612	A24420	S45306	I38449	S18188	T17298	JC5621	A40043	EGMSMG	A49175	T31070	A35844	155476	B48089
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2471 2	2352 2	2437 2	2703 1	2318 2	387 2	2531 2	511 2	493 2	2555 2	1217 1	1203 2	2531 2	2524 2	674 2	678 2
9.8 2471 2	9.8 2352 2	9.8 2437 2										9.0 2531 2			8.5 678 2
287 9.8 2471 2	8.6	9.6	9.6	9.6	9.6	9.5	9.5	9.5	9.4	9.5	9.1		8.8	8.7	8.5

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ALIGNMENTS

thrombomodulin precursor [validated] - human C; Species: Homo sapiens (man) C; Species: Homo sapiens (man) C; Species: 31-Dec-1988 #sequence_revision 12-May-1995 #text_change 15-Sep-2000 C; Date: 31-Dec-1988 #sequence_revision 12-May-1995 #text_change 15-Sep-2000 C; Accession: A41442; A28307; A29680; A27073; JX0264; S38954 K; Shirai, T.; Shiojiri, S.; Ito, H.; Yamamoto, S.; Kusumoto, H.; Deyashiki, Y.; Maruy J. Blochem. 103, 281-285, 1988 J. Biochem. 103, 281-285, 1988
A;Title: Gene structure of human thrombomodulin, a cofactor for thrombin-catalyzed ac A;Reference number: A41442; MUID:88227901; PMID:2836377

A; Molecule type: DNA
A; Residues: 1-575 <SHIS
A; Residues: 1-575 <SHIS
A; Residues: 1-575 <SHIS
A; Cross-references: DDBJ: DD00210; NID: 9220126; PIDN: BAA00149.1; PID: 9220127
B; Jackman, R.W.; Beeler, D.L.; Fritze, L.; Soff, G.; Rosenberg, R.D.
Proc. Natl. Acad. Sci. U.S.A. 84, 6425-6429, 1987
A; Title: Human thrombomodulin gene is intron depleted: nucleic acid sequences of the A; Reference number: A28307; MUID: 87317665; PMID: 2819876
A; Accession: A28307

A; Molecule type: DNA; mRNA A; Residues: 1-472, A, 474-573; CJAC> A; Residues: 1-472, A, 474-573; NID: 9339658; PIDN: AAA61175.1; PID: 9339659 R; Suzuki, K.; Kusumoto, H.; Deyashiki, Y.; Nishioka, J.; Maruyama, I.; Zushi, M.; Kaw EMBO J. 6, 1891-1897, 1987 A; Title: Structure and expression of human thrombomodulin, a thrombin receptor on end A; Reference number: A29680; MUID: 88004395; PMID: 2820710

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A; Molecule type: mRNA
A; Residues: 1-575 < SUZ>
A; Residues: 1-575 < SUZ>
A; Residues: 1-575 < SUZ>
A; Cross-references: GB:X05495; NID:g37123; PIDN:CAA29045.1; PID:g736251
A; Cross-references: GB:X05495; NID:g37123; PIDN:CAA29045.1; PID:g736251
A; Experimental source: lung endothelium
A; Note: part of this sequence, including the amino end of the mature protein, were de R; Wen, D.; Dittman, W.A.; Ye, R.D.; Deaven, L.L.; Majerus, P.W.; Sadler, J.E.
Biochemistry 26, 4350-4357, 1987
A; Title: Human thrombomodulin: complete cDNA sequence and chromosome localization of A; Reference number: A27073; MUID:88024950; PMID:2822087

A; Accession: A27073

A; Molecule type: mRNA A; Residues: 1-472, A', 474-575 < WEN> A; Cross-references: 0B:M16552; NID:9339656; PIDN:AAB59508.1; PID:9339657 A; Experimental source: placenta A; Note: parts of this sequence were determined by protein sequencing B; Yamamoto, S; Mizoguchi, T; Tamakl, T; Ohkuchi, M.; Kimura, S.; Aokl, N. A; Tille: Urihary thrombomodulin, its isolation and characterization. A; Reference number: JX0264; MUID:93293792; PMID:8390446

A; Accession: JX0264

A; Molecule type: protein; mRNA A; Residues: 19-472, 'A', 474-486 <YAM> A; Experimental source: urine

A; Experimental source: urine A; Note: the urinary form appears to be identical with that circulating in plasma R; Gerlitz, B.; Hassell, T.; Vlahos, C.J.; Parkinson, J.F.; Bang, N.D.; Grinnell, B.W.

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A.Gross-references: GDB:119613; OWIN:188040
A.Gross-references: GDB:119613.2
A.Map position: 20p1.2-20p11.2
A.Introns: status absent
C.Complex: homodimer, urinary form
C.Function:
A.Bethaya; Diod coagulation moderation
A.Bethaya; Diod coagulation moderation
A.Mote: thrombin complexed with the membrane-bound form is subject to endocytosis
C.Superfamily: thrombomodulin, C-type lectin homology; EGF homology
C.Superfamily: thrombomodulin, cambrane-bound form is subject to endocytosis
C.Superfamily: thrombomodulin, membrane-bound form status predicted caid; blood coag
C.Superfamily: thrombomodulin, membrane-bound form status predicted caid; blood coag
C.Superfamily: extracellular status predicted caid;
F.1-18/Domain: extracellular status predicted caid;
F.19-486/Product: thrombomodulin, urinary form status experimental caid; blood coag
F.19-486/Product: thrombomodulin, urinary form status experimental caid;
F.177-199/Region: PEST sequence
F.177-199/Region: PEST sequenc
                                                                                                                                                                                A. Molecule type: protein
A. Molecule type: protein
A. Molecule type: protein
A. Residues: 475-491, X', 493-494 <GER>
A. Residues: 475-491, X', 493-494 <GER>
A. Note: the residue designated 'X' was determined to be a Ser with covalently bound chort R. Molinger, D.P.; Komives, E.A.
Submitted to the Brookhaven Protein Data Bank, September 1995
A. Reference number: A67369; DBB:LAAQ
A. Reference number: A57369; DBB:LAAQ
A. Reference number: A52804; DBB:HHLT
A. Contents: annotation; X-ray crystallography, 3.0 angstroms, residues 426-442
A. Contents: annotation; X-ray crystallography, 3.0 angstroms, residues 426-442
A. Reference number: A65883; DBB:HGD
A. Reference number: A65883; DBB:LRD
A. Reference number: A
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A; Title: Identification of the predominant glycosaminoglycan-attachment site in soluble
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A;Contents: annotation; conformation by (1)H-NMR, residues 427-444
R;Hrabal, R.; Komives, B.A.; Ni, F.
Protein Sci. 5, 195-203, 1996
A;Title: Structural resiliency of an BGF-like subdomain bound to its target protein, A;Reference number: A58955; MUID:96276211; PMID:8745396
A;Contents: annotation; conformation by (1)H-NMR
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                                                                                        A;Reference number: S38954; MUID:94029900; PMID:8216207
A;Accession: S38954
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Matches 515; Conservative
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thrombomodulin precursor - mouse
thrombomodulin precursor - mouse
thrombomodulin precursor - mouse
thrombomodulin precursor - mouse
C.Species: Was musculus (house mouse)
C.Date: 17.Apr.1933 #sequence_revision 17.Apr.1993 #text_change 16-Jul-1999
C.Accession: 800488 # 32001; A60501
R.Dittman, W.A.: Majerus, P.W.
Nuclect Acids Ress. 17, 802, 1989
A.Fitle: Sequence of a cDMA for mouse thrombomodulin and comparison of the predicted
A.Reference number: 800488 # MID:89128454; PMID:2536925
A.Accession: 800488 # MID:89128454; PMID:2536925
A.Accession: ASSUBL:X14432; NID:954781; PIDN:CAA32597.1; PID:954782
A.Accession: A32001; MID:8908498; PMID:2844823
A.Accession: A32001; MID:89008498; PMID:2844823
A.Accession: A32001; MID:89008498; PMID:2844823
A.Accession: A32001
A.Accession: A32001
A.Accession: A5001; MID:99008498; PMID:2162790
A.Title: Identification of fetomodulin, a surface marker protein of fetal development
A.Residues: 97-277 CDI2
A.Cross-references: GB:04060
A.Title: Identification of fetomodulin, a surface marker protein of fetal development
A.Accession: A60501; MID:990292331; PMID:2162790
A.Title: Identification of fetomodulin, a surface marker protein of fetal development
A.Recession: A60501; MID:90292331; PMID:2162790
A.Moccession: A60501; MID:90292824
A.Title: The Armadomodulin binds to and internalizes with thrombon A.Residues: 19-22, 330-343.479-489; 545-55; 562-575 CIMA>
A.C.Comment: Thrombomodulin binds to and internalizes with thrombom C.Superfamily: thrombomodulin; C-type lectin homology: EGF homology
C.Keywords: anticoagulant: membrane protein homology: EGF homology
F.24-278/Domain: EGF homology EGE2>
F.24-278/Domain: EGF homology EGE2>
F.23-24-278/Domain: EGF homology EGE2>
F.23-24-24/36/Domain: EGF homology EGE2>
                                                                                                                                                                                                                                                                                                                           300
                                                                                                                                                                                                                                                                                                                                                                DQPGSYSCMCETGYRLAADQHRCEDVDDCILEPSPCPQRCVNTQGGFECHCYPNYDLVDG 360
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TQASCECPEGYILDDGFICTDIDECENGGFCSGVCHNLPGTFECICGPDSALARHIGTDC 480
RWARLDINGAPICGPICVAVSAAEATVPSEPIWEEQQCEVKADGFICEFHFPATCRPLAV 180
                                                                                                                                                           EPGAAAAAVSITYGTPFAARGADFQALDVGSSAAVAPLGLQLMCTAPPGAVQGHWAREAP
                                                                                                                                                                                                                                           181 EPGAAAAVSITYGTPFAARGADFQALPVGSSAAVAPLGLQLMCTAPPGAVQGHWAREAP
                                                                                                                                                                                                                                                                                                                           GAWDCSVENGGCEHACNAIPGAPRCQCPAGAALQADGRSCTASATQSCNDLCEHFCVPNP
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Pred. No. 3.1e-106;
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F;444-479/Domain:
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Length 577;

61 TVRSSVAADVISLLLNGDGGVGRRRLWIGLQLPPGGGDPKRLGPLRGFQWVTGDNNTSYS 120

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1 MLGVLVLGALALAGIGFPAPAEPQPGGSQCVEHDCFALYPGPATFLNASQLCDGLRGHLM 60

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C; Species: Rattus norvegicus (Norway rat)
C; Species: Rattus norvegicus (Norway rat)
C; Species: Rattus norvegicus (Norway rat)
C; Date: 20-Sep-1999 #sequence_revision 20-Sep-1999 #text_change 21-Jul-2000
C; Accession: T13954
R; Nakayama, M.; Nakajima, D.; Nagase, T.; Nomura, N.; Seki, N.; Ohara, O.
Genomics 51, 27-34, 1998
A; Title: Identification of high-molecular-weight proteins with multiple EGF-like moti
A; Reference number: Z14126; MUID:98360089; PMID:9693030
A; Accession: T13954
A; Status: preliminary; translated from GB/EMBL/DDBJ
A; Molecule type: mRNA
A; Residues: 1-1574 <NAK>
A; Cross-references: EMBL:AB011532; NID:93449293; PIDN:BAA32462.1; PID:93449294
A; Experimental source: strain Sprague-Dawley; brain
C; Genetics:
A; Gene: MEGF6
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hypothetical protein Y64G10A.f - Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Accession: T27283
R;Ainscough, R.
submitted to the EMBL Data Library, September 1999
A;Reference number: Z20336
A;Reference number: Z20336
A;Accession: T27283
A;Status: preliminary; translated from GB/EMBL/DDBJ
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       CHCYPNYDLVDGECVEPVDPCFRANCEYQCQPLNQTSYLCVCAEGFAPIPHEPHRCOMFC 408
                            | ||:||||: ||:||| | 264 ELRGLAHCGCHPGYQLAADRKTCEDVDECALGLAQCAHGCLNTQGSFKCVCHAGYELGAD
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                                                                              NQTACPADCDPNTQASCECPEGYILDDGFICTDIDECENGGFCSGVCHNLPGTFECICGP
                                                                                                 DSALARHIGTDCDSGKV-----DGGDSGSGEPPPSPTPGSTLTP-PA-VGLVHSG
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Best Local S:
Matches 104;
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CiSpecies: Bos primigenius taurus (cattle)
C;Species: Bos primigenius taurus (cattle)
C;Species: Bos primigenius taurus (cattle)
C;Date: 30-Jun-1988 #sequence_revision 30-Jun-1988 #text_change 16-Jul-1999
C;Accession: A25918
R;Jaccession: A25918
R;Jacces Louranterization of a thrombomodulin cDNA reveals structural similarity to the A;Reference number: A25918; MUID:87067408; PMID:3024152
A;Accession: A25918
A;Molecule type: mRNA
A;Residues: 1-356 cJAC>
A;Residues: 1-356 cJAC>
A;Residues: 1-356 cJAC>
A;Cross-references: GB:M14657; NID:9163762; PIDN:AAA30785.1; PID:9163763
C;Superfamily: thrombomodulin; C-type lectin homology; EGF homology
C;Superfamily: cfF homology <EG3>
F;103-136/Domain: EGF homology <EG3>
F;103-136/Domain: EGF homology <EG4>
F;182-1379/Domain: EGF homology <EG4>
F;182-1379/Domain: EGF homology <EG6>
F;182-1370-Domain: EGF homology <EG6>
F;182-1370-Domain: EGF homology <EG6>
F;219-253/Domain: EGF homology <EG6>
F;219-253/Domain: EGF homology <EG6>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DGECVEPVDPCFRANCEYQCQPLNQTSYLCVCAEGFAPIPHEPHRCQMFCNQTACPADCD 418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PNTQASCECPEGYILDDGFICTDIDECENGGFCSGVCHNLPGTFECICGPDSALARHIGT 478
                                                                                                                                                                                                                                                                                                                                                                                             64
                                                                                                                                                                            SRWARLDINGAPLCGPLCVAVSAAEATVPSEPIWEEQOCEVKADGFLCEFHFPATCRPLA 179
                                                                                                                                                                                                                                                                                        237
                                                                                                                                                                                                                                                                                                                                            119
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 Gaps
                               MIGVIVIGALALAGIGFPAPAEPQPGGSQCVEHDCFALYPGPATFLNASQICDGLRGHLM 60
                                                                     9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               229 GAVQGHWAREAPGAWDCSVENGGCEHACNAIPGAPRCQCPAGAALQADGRSCTASATQSC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GETEGRWSREAPGAWACGVERGCOHECKGSAGASNCLCPADAALQADGRSCGLPAEHPC
                                                                                                                                                                                                                                                     239 APGAWDCSVENGGCEHACNAIPGAPRCQCPAGAALQADGRSCTASATQSCNDLCEHFCVP
                                                                                                      TVRSSVAADVISLLLNGDG-GVGRRRLWIGLQLPPGCGDPKRLGPLRGFQWVTGDNNTSY
                                                                                                                                                                                                  15;
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8
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              37.6%; Score 1095.5; DB 2;
llarity 63.4%; Pred. No. 2.3e-58;
Conservative 31; Mismatches 63;
 125;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DCDSGKV---DGGDSGSGEPPPSPTPGSTLTPPAVGLVHSG
 Mismatches
 46;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       thrombomodulin - bovine (fragment)
   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Best Local Similarity
Matches 189; Conserv
     342;
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     Matches
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Ritilstra, D.J.; Li, L.; Potter, K.A.; Womack, J.; Byers, P.H.
Genomics 23, 480-485, 1994
A;Tilte: Sequence of the coding region of the bovine fibrillin cDNA and localization
A;Reference number: A55567; MUID:95137597; PMID:7835900
A;Rcession: A55567
A;Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       fibulin-2 precursor - human
N,Alternate names: protein DKF2p586A1519.1
C;Species: Homo sapiens (man)
C;Date: 27-Jan-1995 #sequence_revision 27-Jan-1995 #text_change 02-Aug-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1288 DGGQCINIPGEYRCLCYDGFMASMDMKTCIDVNĘCDLNPNICMFGECENTKGŞFICHCQL 1347
                                                                                                                                                    1348 GYSVKKGTTGCTD-VDECEIGAHNCDMHASCLNVPGSFKCSCREGWVGNGIKCIDLDECA 1406
                                                                                                                                                                                                                                                           1250 DGGQCINIPGETRCLCYDGFMASEDMKTCVDVNECDLNPNICLSGTCENTKGSFICHCDM 1309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1420 CLNAPGGYRCECDMGFVPSADGKACEDIDECSLPNICVFGTCHNLPGLFRCECEIGYELD 1479
                                                                                                                                                                                                                                                                                                                                                                               C;Species: Bos primigenius taurus (cattle)
C;Date: 20-Feb-1995 #sequence_revision 20-Feb-1995 #text_change 02-Aug-2002
                                                                                                                                                                                                                        448
                                                                                                                                                                                                                                                                                                                                               449 ------GVCHNLPGTFECICGPDSALA 473
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   244 DCSVENGGCEHACNAIPGAPRCQCPAGAALQADGRSCTASATQSCNDLCEHFCVPNP--- 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           301 -----DQPGSYSCMCETGYRLAADQHRCEDVDDCILEPSPC-PQRCVNTQGGFECHCYP 353
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Molecule type: mRNA
A; Residues: 1-2871 <TIL>
A; Cross-references: GB:128748; NID:9508427; PIDN:AAA74122.1; PID:9508428
C; Superfamily: fibrillin 1; EGF homology
F;1201-1236/Domain: EGF homology <EGF>
                                                                                                NYDLVDGE--CVEPVDPC--FRANCEYQCQPLN-QTSYLCVCAEGFA------PIP
                                                                                                                                                                                                                    399 HEPHRCQMFCNQTACPADCDPNTQAS--CECPEGYILDDGFICTDIDE-----CENG-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ----GGF-----COCHNLPGTFECICGPDSALA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         399 HEPHRCOMFCNQTACPADCDPNTQAS--CECPEGYILDDGFICTDIDEC-EN----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels 106;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               474 RHIG------TDCDSGK-VDGGDSGSGEPPPSPTPGSTLTPPAVGLV 513
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 2871;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         12.6%; Score 368; DB 2; LA 31.5%; Pred. No. 2.4e-14; Live 26; Mismatches 109;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity 31.5%;
Matches 111; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1518 RTGGNCTDID 1527
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      474 RHIG--TDCD 481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           fibrillin I - bovine
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                                                                                                354
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C:Date: 23-Feb-1996 #sequence_revision 23-Feb-1996 #text_change 02-Aug-2002
C:Date: 23-Feb-196 #sequence_revision 23-Feb-1996 #text_change 02-Aug-2002
C:Caccession: A57278
R:Zhang, H.; Hu, W.; Ramirez, F.
J. Cell Biol. 129, 1165-1176, 1995
J. Cell Biol. 129, 1165-1176, 1995
J. Cell Biol. 129, 1165-1176, 1995
A:Title: Developmental expression of fibrillin genes suggests heterogeneity of extracell A:Reference number: A57278; MUID:95263670; PMID:7744963
A:Accession: A57278
C:Superfamilary
A:Accession: A57278
A:Accession: Accession: A57278
A:Accession: A57278
A:Accession:
                                                                                       A, Experimental source: clone Y64G10A
C, Genetics:
A, Gene: CESP: Y64G10A. f
A, Introns: 77/1; 116/1; 198/1; 282/1; 365/1; 425/1; 466/1; 548/1; 559/1; 601/1; 625/1;
A;Molecule type: DNA
A;Residues: 1-1620 <WIL>
A;Cross-references: EMBL:AL110498; NID:e1542303; PIDN:CAB54471.1; CESP:Y64G10A.f
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      18;
                                                                                                                                                                                                                                                                                                               20;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               455
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    146 FELSGDGNTCSDIDECAVSNGGCSDRCVNSPGGFRCDCPSDLYLHADGRTC--GKVTSCS 203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             320
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EEMLGGCQVGNGGCQHDCYDQPDGGHVCKCRNGYILANDQKLCHDNISTVIHARAPRLWD 380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            381 SYETVTCVTPTDLTCHKLCMHLDSGHVQCFCDDGYELIDSKFCQDINECHENNGDCSQIC 440
                                                                                                                                                                                                                                                                                                                                                                                                                                      56 YLRFARFSRRGCSKCCLLRVQANCSADLCHNGGTCVPSEHNDNEQVCECPVGFTGAKCQY 115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                170 HFPATCRPLAVEPGAAAAVSITYGTPFAARGADFQALPVGSSAAVAPLGLQLMCTAPPG 229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         --NDLCEHFCVPNPDQPGSYSCMCETGYRLAADQHRCEDVDDCILEPSPCPQRCVNTQGG 346
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   204 TDNGGCEHEC-ENDSNGEFYRCRCRVGFKLSENKRSCQPVDPCFDNKGGCQHHCTNNHGR 262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -----QPGSYSCMCETGYRLAADQHRCEDVDDCILEPSPCP-QRCVNTQGGFECHCYP 353
                                                                                                                                                                                                                                                                                                                                                                         119 YSRWARLDLNGAPLCGPLCVAVSAAE-----ATVPSEPIWEEQQCE--VKADGFLCEF 169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FECHCYPNYDL-VDGECVEPVDPCFRAN-CEYQCQPLNQTSYLCVCAEGFAPIPHEPHRC 404
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                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              230 AVQGHWAREAPGAWDCSVENGGCEHACNAIPGAPRCQCPAGAALQADGRSCTASATQSC-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AQCQCYPGFHLSYDRRSCVDIDECAKNNGCEHFCENVKGT-YRCKCREGY-QLGRDGRTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    OMF-----CNQTACPADC--DPNTQASCECPEGYIL------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   HNLPGTFECICGPDSALARHIGT ---- DCDS ----- GKVDGGDSGSGEP 495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      14.2%; Score 414; DB 2; Length 1620; 27.0%; Pred. No. 2.7e-17; tive 38; Mismatches 176; Indels 132;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                92;
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                                                                                                                                                                                                                                              Query Match
Best Local Similarity 27.0%
Matches 128; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match 12.85
Best Local Similarity 32.95
Matches 102; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 fibrillin-2 precursor - mouse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             244
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1529 CTDID 1533
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A; Accession: S31101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Gene: GDB: FBN2
                                                                                                                                                                                                                                                                                                                                                                                              R; Milewicz, D.M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 244
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C; Accession: A55184; T08744
R; Zhang, R.Z.; Pan, T.C.; Zhang, Z.Y.; Mattei, M.G.; Timpl, R.; Chu, M.L.
Genomics 22, 425-430, 1994
A; Title: Fibulin-2 (FBLN2): human cDNA sequence, mRNA expression, and mapping of the gen
A; Accession: A55184
A; Accession: 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A54105

fibrillin-2 precursor - human

c;Species: Homo sapiens (man)

c;Species: Homo sapiens (man)

c;Date: 09-Sep-1994 #sequence_revision 09-Sep-1994 #text_change 02-Aug-2002

c;Date: 09-Sep-1994 #sequence_revision 09-Sep-1994 #text_change 02-Aug-2002

c;Date: 09-Sep-1994 #sequence_revision

B;Zhang, H.; Apfelroth, S.D.; Hu, W.; Davis, E.C.; Sanguineti, C.; Bonadio, J.; Mecham, J. Cell Biol. 124, 855-863, 1994

A;Title: Structure and expression of fibrillin-2, a novel microfibrillar component prefe A;Reference number: A54105; MUD:94165150; PMID:8120105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   21;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        287
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     682
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     344 QGGFECH----CYPNYDLVDGECVEPVDPCFRANCEYQCQPLNQTSYLCV----- 389
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ---CAEGFAPIPH-----EPHRCQMFCNQTACPADCDPNTQASCECPEGY-I 432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RORCADGFLODPEGNCVDINECTSLSEPCRPGFSCINTVGSYTCQRNPLI --- CARGYHA 849
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EEQQCEVKAD-GFLCEFHFPATC----RPLAV-----EPGAAAAAVSITYGTPFAARG 201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | :|| :|| :|| AGREALSLGTEAELPNSLPGDDQDECLLLPGEL------CQHLCIN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A;Cross-references: GDB:293037; OMIM:135821
A;Arap position: 3p25-3p24
A;Note: DKF2p586A1519.1
C;Superfamily: fibulin-2; EGF homology
C;Keywords: alternative splicing; extracellular matrix
F;1-27/Domain: signal sequence #status predicted <SIG>F;28-1184/Product: fibulin-2 protein #status predicted
F;905-941/Domain: EGF homology <EGF>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SDDGAKCVDVNECETGVHRCGEGQVCHNLPGSYRCDC 886
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LDDGFICTDIDECENGGFCSG---VCHNLPGTFECIC 466
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Best Local Similarity
Matches 119; Conserva
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fibrillin 1 precursor - human (fragment)

fibrillin 1 precursor - human (fragment)

fibrillin 1 precursor - human (fragment)

c; Species: Hono sapiens (man)

c; Date: 02-un-1995 #sequence_revision 25-Apr-1997 #text_change 02-Aug-2002

c; Accession: A47221; I54355; S17064; I59574; S17062; S62111; A34198

R; Corson, G. M.; Chalbergy, S. C.; Dletz, H. C.; Charbonneau, N. L.; Sakai, L. Y.

A; Corson, G. M.; Chalbergy, S. C.; Dletz, H. C.; Charbonneau, N. L.; Sakai, L. Y.

A; Reference number: A47221; MUD: 94010947; PMID: 7691719

A; Reference number: A47221

A; Residues: 1-337, 'T', 339-1029 <COR>
A; Residues: 1-337, 'T', 339-1029 <COR>
A; Cross-references: GB: X63556
                                      A; Molecule type: mRNA
A; Residues: 1-218 (2248-)
A; Residues: 1-218 (2248-)
A; Cross-references: GB:001272
R; Lee, B.; Godfrey, M.; Vitale, E.; Hori, H.; Mattei, M.G.; Sarfarazi, M.; Tsipouras, Nature 352, 330-334, 1991
Nature 352, 330-334, 1991
A; Title: Linkage of Marfan syndrome and a phenotypically related disorder to two diff A; Reference number: S17062; MUID:91304567; PMID:1852206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A;Molecule type: mRNA
A;Residues: 752-1407, 'R',1409-1489,1791,'GS',1794-1796,'QLI',1922-1923,'LD',1926,'P'
A;Cross-references: EMBL:X62009
C;Genetics:
compared with conceptual
                                                                                                                                                                                                                                                                                                      A;Molecule type: mRNA
A;Residues: 752-1489,1791,'GS',1794-1796,'QLI',1922-1923,'LD',1926,'P',1928 <LEE>
A;Cross-references: EMBL:X62009
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              17;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1294 DGGQCTNIPGEYRCLCYDGFWASMDMKTCIDVNECDLNSNICMFGECENTKGSFICHCQL
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 2918;
   preliminary; nucleic acid sequence not shown; not
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity 33.1%; Pred. No. 3.2e-14;
Matches 101; Conservative 25; Mismatches 97;
                                                                                                                                                                                                                                                                                                                                                                                                                                       submitted to the EMBL Data Library, December 1992
A;Reference number: $31101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A,Cross references: GDB:128122, OMIM:121050
A,Map position: 5q23-5q31
C,Superfamily: fibrillin 1; EGF homology
C,Reywords: extracellular protein
F;1-29/Domain: signal sequence #status predicted
F;30-2918/Product: fibrillin-2 #status predicted
F;1245-1280/Domain: EGF homology <EGF1>
F;1970-2013/Domain: EGF homology <EGF>
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C;Species: Mus musculus (house mouse)
C;Date: 23.Amr-1995 #sequence_revision 23-Mar-1995 #text_change 02-Aug-2002
C;Accession: A55624
R;Yin, W.; Smiley, E.; Germiller, J.; Sanguineti, C.; Lawton, T.; Pereira, L.; Ramire
J, Biol. Chem. 270, 1799-1806, 1995
A;Tile: Primary structure and developmental expression of Fbn-1, the mouse fibrillin
A;Reference number: A55624; MUID:95130561; PMID:7829516
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               C;Species: Homo sapiens (man)
C;Date: 04-Feb-2000 #sequence_revision 04-Feb-2000 #text_change 04-Feb-2000
C;Accession: T46488
                                                                                                                                                                                                                            1551 CLNAPGGYRCECDMGFVPSADGKACEDIDECSLPNICVFGTCHNLPGLFRCECEIGYELD 1610
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1611 RSGGNCTDVNECLDPTTCISGNCVN------TPGSYICDCPPDFELNPTRVGCV 1658
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1162 SANLCPHGRCVNLIGKYQCACNPGYHPTHDRLFCVDIDECSIMNGGCETFCTNSDGSYEC 1221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1222 SCQPGFALMPDQRSCT-----DIDQ--CEDNPNICDGGQCTNIPGEYRCLCYDGFMA 1271
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              372 ANCEYQCQPLNQT-SYLCVCAEGFA-----PIPHEPHRCQMFCNQTACPADCDPN 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       266 QCPAGAALQADGRSCTASATQSCNDLCEHFCVPNP------DQPGSYSCMCETGYRL 316
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ------CS-----GVCHNLPGTFECICGPDSALARHIG------TDCDSGK 484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A;Status: preliminary
A;Moleoule type: mRNA
A;Residues: 1-2871 < YIN>
A;Cross-references: GB:L29454; NID:g575509; PIDN:AAA56840.1; PID:g575510
                                                                                 1500 NGTHMCSQH------ADC-KNIMGSYRCLCKEGY-TGDGFTCTDLDECSENLNLCGNGQ
                                                                                                                                                                              474 RHIG-------TDCDSGKVDGGDSGSGEPPPSPTPGS------TLTPPAVGLV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                212 SAAVAPLGL-----QLMCTAPPGAVQGHWAREAPGAWDCSVENGGCEHACNAIPGAPRC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          317 AADQHRCEDVDDCILEPSPC-PQRCVNTQGGFECHCYPNYDLVDGE-~CVEPVDPC-~FR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 421 TQAS--CECPEGYILDDGFICTDIDEC-EN-----GGF-----G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match 12.4%; Score 362; DB 2; Length 2871; Best Local Similarity 29.4%; Pred. No. 5.4e-14; Matches 117; Conservative 26; Mismatches 127; Indels 128;
                                       399 HEPHRCOMFCNQTACPADCDPNTQAS -- CECPEGYILDDGFICTDIDEC - EN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               hypothetical protein DKFZp434J065.1 - human (fragment)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1502 CVN-----TPGSYTCDCSPDFELNPTRVGCV 1527
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        485 VDGCDSGSGEPPPSPTPGS-----TLTPPAVGLV 513
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A;Gene: Fbn.1
C;Superfamily: fibrillin 1; EGF homology
F;1201-1236/Domain: EGF homology <EGF>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        fibrillin-1 precursor - mouse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Accession: A55624
                                                                                                                                                                                 448
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Molecule type: mRNA
A; Residues: 1030-3002 <MAS>
A; Residues: 1030-3002 <MAS>
A; Cross-references: EMB::X6356
A; Cross-references: EMB::X6356
R; Didtz, H.C.; Valle, D.; Francomano, C.A.; Kendzior, R.J.
Science 259, 680-683, 1993
A; Title: The skipping of constitutive exons in vivo induced by nonsense mutations.
A; Reference number: IS9574; MUID:93157831; PMID:8430317
A; Reterence number: IS9574; MUID:93157831; PMID:8430317
A; Reterence number: IS9574; MUID:93157831; PMID:8430317
A; Reterence number: IS9574; MID:93157831; PMID:8430317
A; Residues: 2217-2288, I', 2290-2325 <RES>
A; Residues: 2217-2288, I', 2290-2325 <RES>
A; Residues: 2317-2288, I', 2290-2325 <RES>
A; Residues: 230-334, 1991
R; Lee, B; Godfrey, M; Yitale, E.; Hori, H.; Mattel, M.G.; Sarfarazi, M.; Tsipouras, P. Nature 352, 330-334, 1991
A; Reference number: S17062; MUID:91304567; PMID:1852206
A; Reference number: S17062; MUID:91304567; PMID:1852206
A; Reference number: S17062.
R;Pereira, L.V.; D'Alessio, M.; Ramirez, F.; Lynch, J.; Sykes, B.; Pangilinan, T.; Bonad Mum. Mol. Genet. 2, 961-968, 1991.
A;Title: Genomic organization of the sequence coding for fibrillin, the defective gene FA;Reference number: I54355; MUID:93372860; PMID:8364578
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A:Map position: 15q21.1-15q21.1
A:Map position: 15q21.1-15q21.1
C:Superfamily: fibrillin 1; EGF homology
C:Keywords: alternative splicing; calcium binding; extracellular matrix; glycoprotein; NF:1-3002/Product: fibrillin (5'-region exon A splice form) (fragment) #status predicted F:132-1367/Domain: EGF homology <EGF>
F:132-1367/Domain: EGF homology <EGF2>
F:262-2295/Domain: EGF homology <EGF2>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A; Molecule type: protein
A; Readubes: 1166-1176, x', 1178-1180, 'D', 1182-1185 <LEE2>
A; Readubes: 1166-1176, x', x', 1178-1180, 'D', 1182-1185 <LEE2>
B; Maddox, B.K.; Sakai, L.Y.; Keene, D.R.; Glanville, R.W.
J. Biol. Chem. 264, 21381-21385, 1989
A; Title: Connective tissue microfibrils. Isolation and characterization of three large
A; Reference number: A34198; WUID:90078246; PMID:2512293
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A;Residues: 565-575;1890-1892,'I',1894-1900 <MAD>
C;Comment: Fibrillin 1s a major component of elastin-associated microfibrils.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1331 ECSIMNGGCETFCTNSEGSYECSCQPGFALMPDQRSCT------DIDE--CEDNPNIC 1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A;Molecule type: mRNA
A;Residues: VILYVPUFILSYNKML',944-1444 <LEE1>
A;Cross.references: EMBL:X62008; NID:g31398; PIDN:CAB56534.1; PID:g5924015
A;Accession: S62111
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                                                                                                                                                               A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Molecule type: mRNA
A;Molecule type: mRNA
A;Residues: 132-3002 <PER>
A;Cross-references: GB:LL13923; NID:g306745; PIDN:AAB02036.1; PID:g306746
R;Maslen, C.L.; Corson, G.M.; Maddox, B.K.; Glanville, R.W.; Sakai, L.Y.
Asture 352, 334-337, 1991
A;Title: Partial sequence of a candidate gene for the Marfan syndrome.
A;Reference number: S17064; MUID:91304568; PMID:1852207
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Best Local Similarity 30.8°
Matches 111; Conservative
                                                                                                                                              A; Accession: I54355
                                                                                                                                                                                                                                                                                                                                                                                                                                                        A;Accession: S17064
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A; Gene: GDB: FBN1
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us-09-509-994-2.rpr

R; Duesterhoeft, A.; Lauber, J.; Mewes, H.W.; Gassenhuber, J.; Wiemann, S. submitted to the Protein Sequence Database, January 2000 A; Reference number: Z23035 A; Accession: T46488 A; Accession: T46488 A; Status: preliminary A; Molecule type: mRNA A; Residues: 1-741 <aaa> A; Cross-references: EMBL:AL137638 A; Cross-references: EMBL:AL13765 A; Cross-references: EMBL:AL13765 A; Cross-references: EMBL:AL13765 A; Cross-references: EMBL:AL13765 A; Cross-references: EMBL:AL137638 A; Cross-references: EMBL:AL13765 A; Cross-references: EMBL:AL137638 A; Cross-references: EMBL:AL13765 A; Cross-references</aaa>	Db 580 LGTEAELPNSLPGDDQDECLMLPGELCQHLCINTVGSYRCACFPGFELCGDGRTCRPDRG 639 Qy 230 AVQGHWARE-APGAWDCSV
Db 125 GSYLCQCHEGFALNPDEKTCTKIDYCASSNHGCQHECVNTDDSXSCHCLKGFTLNPDKKT 184 Qy 363 VEPVDPCFRANCEYQCQFLNQTSYLCVCAEGFAPIPHEPHRCQMFC 408 1: :	RESULT 14 T09059 notch4 - mouse C; Species: Mus musculus (house mouse) C; Species: Mus musculus (house mouse) C; Species: Mus musculus (house mouse) C; Accession: T09059 R; Rowen, L.; Mahairas, G.; Qin, S.; Ahearn, M.E.; Dankers, C.; Lasky, S.; Loretz, C.; submitted to the EMBL Data Library, October 1997 A; Description: Sequence of the mouse major histocompatibility locus class III region. A; Reference number: 216543 A; Accession: T09059 A; Status: preliminary; translated from GB/EMBL/DDBJ A; Molecule types. DNA A; Molecul
otein wit	A; Cesucuces: In 1954 ANDW. A; Cross-references: EMBL:AF030001; NID:g2564945; PID:g2564947 C; Genetics: A; Gene: notch: A; Gene: notch: A; The position: A; Introns: 22/1; 49/2; 148/1; 264/1; 305/1; 384/1; 436/1; 501/1; 539/1; 577/1; 618/1; A; Introns: 22/1; 49/2; 148/1; 264/1; 305/1; 384/1; 436/1; 501/1; 539/1; 577/1; 618/1; A; Introns: 22/1; 49/2; 148/1; 264/1; 305/1; 384/1; 436/1; 501/1; 539/1; 577/1; 618/1; A; Introns: 22/1; 49/2; 148/1; 264/1; 305/1; 384/1; 436/1; 501/1; 539/1; 577/1; 618/1; C; Superfamily: unassigned EGF-related proteins; EGF homology C; Reywords: receptor; signal transduction F; 514-545/Domain: EGF homology <egf> Query Match II.44; Score 332.5; DB 2; Length 1964; Best Local Similarity 26.34; Pred. No. 2.3e-12; Matches 128; Conservative 34; Mismatches 142; Indels 183; Gaps 31;</egf>
A; Residues: 1-1221 CPAN> A; Residues: 1-1221 CPAN> A; Cross-references: GB:X75285; NID:g437046; FIDN:CAA53040.1; PID:g437047 B; CsasAt', T.; Mann, K.; Murphy, G.; Chu, M.L.; Timpl, R. Eur. J. Blochem. 240, 427-434, 1996 A; Title: Different susceptibilities of fibulin-1 and fibulin-2 to cleavage by matrix met A; Reference number: S74094; MUID:96439073; PMID:8841408 A; Recession: S74095 A; Molecule type: protein A; Residues: 236-238, X', 240-247; 260-275; 336-344, 'L', 346-361; 405-426; 566-568, 'EM', 569-589 C; Superfamily: fibulin-2; EGF homology C; Keywords: calcium binding; duplication; extracellular matrix; glycoprotein; homotrimer F; 942-978/Domain: EGF homology <egf></egf>	Qy 134 GPLCVAVSAAEATVPSEPIWEEQQCEVKADGFLCE-FHFPATCRPLAVEPGAAAAVSIT 192 : : :
Query Match 12.2%; Score 357; DB 2; Length 1221; Best Local Similarity 29.5%; Pred. No. 5.4e-14; Matches 123; Conservative 39; Mismatches 141; Indels 114; Gaps 27; Qy 154 EEQQCEVKAD-GFLCEPHFPATCRPLAVEDGAAAANSIT 192	OY 305SYSCMCETGYRLAADQHRCE-DVDDCILEPSPCPQRCVNTQGGFECHC 351 Db 167 VCLATYPQIQCRCPPGFEGHTCERDINECFLEPGPCPGGTSCHNTLGSYQCLCPVG 222 QY 352YPNYDLVDGECVEPVDPCFRANCEXQCQPLNQTSYLCVCAEGFAPIPHE 400

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fibulin-1D precursor - Caenorhabditis elegans (fragment)
C;Species: Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Species: Taylor #sequence_revision 11-Jan-2000 #text_change 02-Sep-2000
C;Accession: T41310
R;Barth, J.L.; Argraves, K.M.; Roark, E.F.; Little, C.D.; Argraves, W.S.
submitted to the EMBL Data Library, June 1998
A;Bestription: Identification of chicken and C. elegans fibulin-1 homologs and character
A;Reference number: Z22337
A;Accession: T41210
A;Accession: T41210
A;Accession: T41210
A;Accession: T41210
A;Residues: 1-589 cBAR>
A;Residues: 1-589 cBAR>
A;Cross-references: EMBL.AF070477; PIDN:AAC24035.1
C;Genetics:
A;Cross-references: EMBL.AF070477; PIDN:AAC24035.1
C;Genetics:
A;Note: intron positions not resolved (incomplete sequence)
C;Superfamily: unassigned EGF-related proteins; EGF homology
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                                                ------SGVCHNLPGTFECICGP----- 468
                                                                                      329 CONTAGSFHCVCVSGWGGAGCEENLDDCAAATCAPGSTCIDRVGSFSCLCPPGRTGLLCH 388
                                                                                                                                            469 --DSALAR--HIGTDCDSGKVDG------409SGS------GEPPPSP----- 499
                                                                                                                                                                             389 LEDMCLSQPCHVNAQCSTNPLTGSTLCICQPGYSGSTCHQDLDECQMAQQGPSPCEHGGS 448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               157 QCEVKA-----DGFLCEFHFP--ATCRPLAVE-----PGAAAAVSITYGTPFA--- 198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                199 --ARGADFQALPVGSSAAVAPLGLQLMCTAPPGAVQ-----GHWAREAPGAWDCS---- 246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ----VENGGCE------HACNA-----IPGAPRCQ-----CPAGAALQADGRSCTA 282
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EPSPCPQRCVNTQGGFECHCYPNYDLV-DGECVEPVDPCFR--ANCEYQCQPLNQTSYLC 388
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      301 HVCDLSAECINTIGSFECKCRPGFQLASDGRRCEDVNECTTGIAACEQKCVNI-PGSYQC 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        389 VCAEGFAPIP-----HEPHRCOMFC--NQTACPADCDPNTQAS--CECPEGY-ILDDGFI 438
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  278 VRHQCQ---NGATCLDGLDTYT---CLCPKTW---KGWDCSEDIDECEARGPPRCRNGGT 328
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ouery Match 11.4%; Score 331; DB 2; Length 589;
Best Local Similarity 28.1%; Pred. No. 1.1e-12;
Matches 126; Conservative 49; Mismatches 166; Indels 108; Gaps
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OM protein - protein search, using sw model

December 16, 2002, 17:20:02; Search time 10.5 Seconds (without alignments) 2038.265 Million cell updates/sec Run on:

US-09-509-994-2 2916 1 MLGVLVLGALALAGLGFPAP......PSPTPGSTLTPPAVGLVHSG 516 Title: Perfect score: Sequence:

BLOSUM62 Gapop 10.0 , Gapext 0.5 Scoring table:

112892 seqs, 41476328 residues Searched:

112892 Total number of hits satisfying chosen parameters:

Minimum DB seq length: 0 Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

SwissProt_40:*

Database :

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

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Ellington A.G., Frankland J.A., Fraser A., French L., Garner P., Grafham D.V., Griffiths C., Griffiths M.N.D., Gwilliam R., Hall R.E., Hammond S., Harley J.L., Heath P.D., Ho S., Holden J.L., Howden P.J., Huckle E., Hunt A.R., Hunt S.E., Jekosch K., Johnson C.M., Johnson D., Ray M.P., Kimberley A.M., King A., Knights A., Laird G.K., Lawlor D., Lehvaslaino M.H., Leversha M.A., Lloyd C., Lloyd D.M., Lovell J.D., Marsh V.L., Martin S.L., McConnachie L.J., McLay K., McMurray A.A., Milne S.A., Mistry D., Moore M.J.F., Wullikin J.C., Nickerson T., Oliver K., Parker A., Pearce T.A.V., Peck A.I., Ross M.T., Scott C.E., Sehrat H.K., Shownkeen R., Sims S., Skuce C.D., Smith M.L., Soderlund C., Steward C.A., Sulston J.E., Swan R.M., Sycanore N., Taylor R., Tee L., Thomas D. W., Thorpe A., Tromans A.C., Vaudin M., Wall M., Wallis J.M., Whitehead S.L., Whittaker P., Willey D.L., Williams L., Williams S.A., Willining L., Wray P.W., Hubbard T., Durbin R.M., Bentley D.R., Beck S.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE-96007474; PubMed-7559494;
Adler M., Seto M.H., Nitecki D.E., Lin J.H., Light D.R., Morser J.;
"The structure of a 19-residue fragment from the C-loop of the fourth epidermal growth factor-like domain of thrombomodulin.";
J. Biol. Chem. 270:23366-23372(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "Identification of the predominant glycosaminoglycan-attachment site in soluble recombinant human thrombomodulin: potential regulation of functionality by glycosyltransferase competition for serine474."; Biochem. J. 295:131-140(1993).
                                                                                                                                                                                                                                                                                                                                                                                          "The DNA sequence and comparative analysis of human chromosome 20.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Hrabal R., Komives E.A., Ni F.; "Structural resiliency of an EGF-like subdomain bound to its target
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDLINE-98035729; PubMed-9367781; Sampoli Benitez B.A., Hunter M.J., Meininger D.P., Komives E.A.; Sampoli Benitez B.A., Hunter M.J., Meininger D.P., Komives E.A.; Structure of the fifth BGF-like domain of thrombomodulin: an EGF-like domain with a novel disulfide-bonding pattern."; J. Mol. Biol. 273:913-926(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gerleitz B., Hassell T., Vlahos C.J., Parkinson J.F., Bang N.U., Grinnell B.W.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDLINE=96100636; PubMed=8528067;
Melninger D.P., Hunter M.J., Komives E.A.;
"Synthesis, activity, and preliminary structure of the fourth
ESF-like domain of thrombodulin.";
Protein Sci. 4:1683-1695(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE-95034791; PubMed-7947766;
Srinhivasan J., Hu S., Hrabal R., Zhu Y., Komives E.A., Ni F.;
"Thrombin-bound structure of an EGF subdomain from human
thrombomodulin determined by transferred nuclear Overhauser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ochlin A.-K., Marlar R.A.; "The first mutation identified in the thrombomodulin gene in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VARIANT TED Y-486, AND VARIANTS T-43; A-79; S-495 AND L-501.
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MEDLINE-94029900; PubMed-8216207;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Biochemistry 33:13553-13560(1994),
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MEDLINE=96276211; Pubmed=8745396;
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or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RISK OF DEVELOPING THROMBOEMBOLIC DISEASES (TED).

-1- DISEASE: DEPETCET IN THBD COULD BE THE CAUSE OF INHERITED TED,
ALSO CALLED INHERITED THROMBOPHILIA. PATIENTS WITH TED HAVE
DEFECTS OF THE HARMOPOLICIE SYSTEM WHICH CREATES A TENDENCY TO THE
PATHOGENESIS OF VARIOUS CARDIOVASCULAR DISORDERS.
-1- SIMILARITY: CONTAINS 6 EGF-LIKE DOMAINS.
-1- DATABASE: NAME-PROW; NOTE-CD Guide CD141 entry;
WWW-"http://www.ncbi.nlm.nlh.gov/prow/cd/cd141.htm".
                                                                                                                                                                                                                                                                             Doggen C.J.M., Kunz G., Rosendaal F.R., Lane D.A., Vos H.L., Stubbs P.J., Manger Cats V., Ireland H.; A mutation in the thrombomodulin gene, 127G to A coding for Ala25Thr, and the risk of myocardial infarction in men."; Themost. 80:743-748(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -!- POLYMORPHISM: VARIATIONS IN THBD ARE ASSOCIATED WITH AN INCREASED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        THAT PORMS A 1:1 STOICHIOMERRIC COMPLEX WITH THROMBIN. THIS COMPLEX IS A STEPPORTIC COMPLEX WITH THROMBIN. THIS COMPLEX IS RESPONSIBLE FOR THE CONVERSION OF PROTEIN C TO THE ACTIVATED PROTEIN C (PROTEIN CA). ONCE EVOLVED, PROTEIN CA SCISSIONS THE ACTIVATED COPACTORS OF THE COAGULATION MECHANISM, FACTOR VAND FACTOR VIIIA, AND THEREBY REDUCES THE AMOUNT OF THROMBIN GENERATED.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -1- SUBCELLULAR LOCATION: Type I membrane protein.
-1- TISSUE SPECIFICITY: ENDOTHELIAL CELLS ARE UNIQUE IN SYNTHESIZING
                                                                                                                                      Norlund L., Holm J., Zoller B., Oehlin A.-K.;
A common thrombomodulin amino acid dimorphism is associated with
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                "Thrombomodulin Ala455Val polymorphism and risk of coronary heart
MEDLINE-97341986; PubMed-9198186;
Oehlin A.-K., Norlund L., Marlar R.A.;
"Thrombomodulin gene variations and thromboembolic disease.";
Thromb. Maemost. 78:396-400(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                    Wu K.K., Aleksic N., Ahn C., Boerwinkle E., Folsom A.R., Juneja H.;
                                                                                                                                                                                                  Thromb. Haemost. 77:248-251(1997).
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                                                                                                                      MEDLINE=97206518; PubMed=9157575;
                                                                                                                                                                                                                                                            MEDLINE-99057299; PubMed-9843165;
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DB; P07204;
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GlycoSuiteDB; P07204; -. Genew; HGNC:11784; THBD.

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MEDLINE=89008498; PubMed=2844823;
Dittman W.A., Kunada T., Sadler J.E., Majerus P.W.;
Dittman W.A., Kunada T., Sadler J.E., Majerus P.W.;
Myristate and function of mouse thrombomodulin. Phorbol
myristate acetae stimulates degradation and synthesis of
thrombomodulin without affecting mRNa levels in hemangioma cells.";
J. Biol. Chem. 263:15815-15821(1988).
-i- FUNCTION: THROMBOWOULIN IS A SPECIFIC ENDOTHELIAL CELL RECEPTOR
THAT FORMS A 1:1 STOICHIOMETRIC COMPLEX WITH THROMBIN. THIS
COMPLEX IS RESPONSIBLE FOR THE CONVERSION OF PROTEIN C TO THE
                             Gaps
                                                  SEQUENCE FROM N.A.
MEDLINE-89128454; PubMed-2536925;
MIDLINE-89128454; PubMed-2536925;
MIDLINE-8012847. Majerus P.W.;
"Sequence of a CDNA for mouse thrombomodulin and comparison of the predicted mouse and human amino acid sequences.";
Nucleic Acids Res. 17:802-802(1989).
                                                                                                                                                    181 EPGAAAAAVSITYGTPFAARGADFQALPVGSSAAVAPLGLQLMCTAPPGAVQGHWAREAP
                                                                                                                                                                                                                                                        241 GAWDCSVENGCCEHACNAIPGAPRCQCPAGAALQADGRSCTASATQSCNDLCEHFCVPNP
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Musinae; Mus.
NCBI_TaxID=10090;
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   Length 575;
                          Indels
 Score 2916; DB 1;
Pred. No. 7.4e-185;
0; Mismatches 0;
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Query Match 100.0%;
Best Local Similarity 100.0%;
Matches 516; Conservative 0
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TRBM_MOUSE
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                                                                                                                                               120 SRWARLDINGAPLCGPLCVAVSAAEATVPSEPIWEEQQCEVKADGFICEFHFPATCRPLA 179
                                                                                                                                                                                        ATGAWNCSVENGGCEYLCNRSTNEPRCLCPRDMDLQADGRSCARPVVQSCNELCEHFCVS 297
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"Characterization of a thrombomodulin cDNa reveals structural
similarity to the low density lipoprotein receptor.";
Proc. Natl. Acad. Sci. U.S.A. 83:8834-8838(1986).
-1- FUNCTION: THROMBOWODULIN IS A SPECIFIC ENDOTHELIAL CELL RECEPTOR
THAT FORMS A 1:1 STOCKHOMETRIC COMPLEX WITH THROMBIN. THIS
COMPLEX IS RESPONSIBLE FOR THE CONVERSION OF PROTEIN C TO THE
ACTIVATED PROTEIN C (PROTEIN CA). ONCE EVOLVED, PROTEIN CA
SCISSIONS THE ACTIVATED COPACTORS OF THE COAGULATION MECHANISM,
FACTOR VA AND FACTOR VIIIA, AND THEREBY REDUCES THE AMOUNT OF
THROMBIN GENERATED.
                                                                                                    1 MLGVLVLGALALAGLGFPAPAEPQPGGSQCVEHDCFALYPGPATFLNASQICDGLRGHLM 60
                                                                                                                                  TVRSSVAADVISLLINGDG-GVGRRRLWIGLQLPPGCGDPKRLGPLRGFQWVTGDNNTSY
                                                                                                                                                                                                                                    180 VEP-GAAAAAVSITYGTPFAARGADFQALPVGSSAAVAPLGLQLMCTAPPGAVQGHWARE
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
494 494 O-LINKED (GLYCOSAMINOGLYCAN) (BY SIMILARITY).
577 AA; 61867 MW; B20E50B0FE745014 CRC64;
                                             Length 577;
                                           65.3%; Score 1903; DB 1; Length 5
65.6%; Pred. No. 2.9e-118;
tive 46; Mismatches 125; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                DCDSGKV---DGGDSGSGEPPPSPTPGSTLTPPAVGLVHSG 516
                                                                                                                                                                                                                                                                                                                                                                                                                                                             01-JAN-1988 (Rel. 06, Created)
01-JAN-1988 (Rel. 06, Last sequence update)
01-CCT-2011 (Rel. 40, Last annotation update)
Thrombomodulin (Fetomodulin) (TM) (Fragment).
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                                                                   Matches 342; Conservative
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                                           Query Match
Best Local Similarity
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P06579;
                       SEQUENCE
 CARBOHYD
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R HSSP, P07204, 17MR.

R InterPro; IPR000152; Asx_hydroxyl.

R InterPro; IPR001681; EGF_11ke.

R InterPro; IPR001681; EGF_Ca.

R InterPro; IPR0010861; EGF_Ca.

R SMART; SM00179; EGF_CA.

R SMART; SM00101; EGF_11ke; 3.

R PROSITE; PS01186; EGF_2; FALSE_NEG.

R PROSITE; PS01186; EGF_2; 3.

R PROSITE; PS01186; EGF_Ca.

W Glycoprotein; EGF_11ke domain.

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EXTRACELLULAR (POTENTIAL).
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EGF-LIKE 3, CALCIUM-BINDING (POTENTIAL).
EGF-LIKE 4.
EGF-LIKE 5.
EGF-LIKE 6, CALCIUM-BINDING (POTENTIAL).
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SUBCELLULAR LOCATION: Type I membrane protein.
TISSUE SPECIFICITY: ENDOTHELIAL CELLS ARE UNIQUE IN SYNTHESIZING
THROMBOMODULIN.
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RP NEDLINE-21638749; Pubmed-11780052;

REDURARS P., Matthews L.H., Ashurst J., Burton J., Gilbert J.G.R.,

MEDLINE-21638749; Pubmed-11780052;

REDURARS P., Matthews L.H., Babust B.M., Brown B.J.,

Baalley J., Barlow K.F., Bates K.N., Beard L.M., Beare D.M.,

Baalley J., Barlow K.F., Bates K.N., Beard L.M., Brown A.J.,

RA Beasley O.P., Bird C.P., Balakey S.E., Bridgeman A.M., Brown A.J.,

RA Beasley O.P., Carder C., Carter N.P.,

RA Clegg S., Coobley V.E., Collier R.E., Connor R.E., Corby N.R.,

Coulson A., Coville G.J., Deadman R., Dhami P.D., Dunn M.,

RA Clegg S., Coobley V.E., Collier R.B., Fraser A., French L., Garner P.,

RA Grafham D.V., Griffiths C., Griffiths M.N.D., Gwilliam R.,

RA Grafham D.V., Griffiths C., Griffiths M.N.D., Gwilliam P.J.,

RA Grafham D.V., Griffiths C., Griffiths M.N.D., Gwilliam P.J.,

RA Kay M.P., Kimberley A.M., King A., Knights A., Laird G.K., Lawlor S.,

Leivaslaiho M.H., Leversha M.A., Lloyd C., Lloyd D.M., Lovell J.D.,

RA Milne S.A., Mistry D., Moore M.J.F., Mullikin J.C., Nickerson T.,

RA Phillimore B.J.C.T., Prathalingam S.R., Plumb R.W., Rammsay H.,

RA Skuce C.D., Smith M.L., Scott C.E., Sehra H.K., Shownkeen R., Sims S.,

RA Swuce C.D., Smith M.L., Scott C.E., Sehra H.K., Shownkeen R., Sims S.,

RA Swuce C.D., Smith M.L., Stott C.E., Sehra H.K., Shownkeen R., Sims S.,

RA Willing J.L., Wiray P.W., Hubbard T., Durbin R.M., Bentley D.R., Williams S.A.,

RA Willing L.W. Ray P.W., Hubbard T., Durbin R.M., Bentley D.R., Beck S.,
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Nature 414:865-871(2001).
      NQTACPADCDPNTQASCECPEGYILDDGFICTDIDECENGGFCSGVCHNLPGTFECICGP 468
                                                                                                                               183 NQTSCPADCDPHYPTICRCPEGYIIDEGSTCTDINECDT-NICPGQCHNLPGTYECIGGP 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        OgNPY3; 000274;
15-JUN-2002 (Rel. 41, Created)
15-JUN-2002 (Rel. 41, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
16-JUN-2002 (Rel. 41, Last annotation update)
16-JUN-2002 (Rel. 41, Last annotation update)
17-JUN-2002 (Rel. 41, Last annotation update)
18-JUN-2002 (Rel. 41, Last annotation update)
18-JUN-2002 (Rel. 41, Last sequence update)
19-JUN-2002 (Rel. 41, Last sequence update)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Steinberger P., Szekeres A., Wille S., Stockl J., Selenko N., Prager E., Staffler G., Madic O., Stockinger H., Knapp W.; Identification of human CD93 as the phagocytic Clg receptor (ClqRp)
                                                                                                                                                                                                                          DSALARHIGTDCDSGKV-----DGGDSGSGEPPPSPTPGSTLTP-PA-VGLVHSG 516
                                                                                                                                                                                                                                                          Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                           652 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A., AND PARTIAL SEQUENCE. PubMed~9047234;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A., AND VARIANT ALA-318.
Pubmed-11781389;
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J. Leukoc. Biol. 71:133-140(2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                           STANDARD;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NCBI_TaxID=9606;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PubMed-LOUSZEN, Park M., Tenner A.J.;
Nepomuceno R.R.;
"Cigqp is a heavily 0-glycosylated cell surface protein involved in "Cigqp is a heavily 0-glycosylated cell surface protein involved in the regulation of phagocytic activity.";
J. Immunol. 162:3583-3589(1999).
J. Immunol. 162:3583-3589(1999).
C. I. FUNCTION: Receptor for element of a larger receptor complex) for Cig, mannose-binding lectin (MBLZ) and pulmonary surfactant protein A (5PA). May mediate the enhancement of phagocytosis in monocytes and macrophages upon interaction with soluble defense collagens. May play a role in intercellular adhesion.
C. I. SUBCELLULAR LOCATION: Type I membrane protein.
C. I. SUBCELLULAR LOCATION: Type I membrane protein.
C. I. PIW. N- and O-glycosylated.
C. I. PIW. N- and O-glycosylated.
C. I. SIMILARITY: CONTAINS 5 EGF-LIKE DOMAIN.
C. I. SIMILARITY: CONTAINS 5 EGF-LIKE DOMAINS.
C. I. CAUTION: Raccording to Ref. 5, Clg is not a ligand for ClQRI.
C. I. DATABASE: NAME-PROW; NOTE-PROW 3:1-6(2001);
WWW="http://www.ncbi.nlm.nih.gov/prow/guide/46724456_g-htm".
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REMBL; BC028075; AAH28075.1; --

REMBL; BC06015; BCF-11ke.

RICEPTO; IPR001181; BCF-Ca.

RICEPTO; IPR001181; BCF-Ca.

REPTO; IPR001181; FISSUE_factor.

REPTO; IPR001181; FISSUE_factor.

REPTO; IPR001181; FISSUE_factor.

REPTO; IPR001182; LIKE; 1.

REMBL; SM00101; BCF-CA; 3.

REMBL; BC00101; BCF-CA; 3.

RECEPTO; IRRORITE; PS00101; C_TYPE_LECTIN_2; 1.

RECEPTO; RGT_E; PS01186; EGF_2; 3.

RECEPTO; RGT_E; PS01186; BCF_2; 3.

RECEPTO; RGT_E; PS01186; BCF_2; 3.

RECEPTO; RGT_E; PS01186; BCF_2; 3.

RECEPTO; RGT_E; RGT
                                                                                                                                                                                                               PubMed-11994479;
McGreal E.P., Ikewaki N., Akatsu H., Morgan B.P., Gasque P.;
Human CiqRp is identical with CD93 and the mNI-11 antigen but does not bind Clq.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPLEMENT COMPONENT C10 RECEPTOR.
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POTENTIAL.
CYTOPLASMIC (POTENTIAL).
C-TYPE LECTIN.
EGF-LIKE 1.
                                                  to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                             Immunol. 168:522-5232(2002).
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301
                                                                     Submitted (APR-2002)
rissum=Leukocyte;
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                                         Strausberg R
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483 EEDKGEKEGSTVPRAATASPTRGPEGTPKA 512
         487 GGDSGSGE-----PPPSPTPGSTLTPPA 509
                                                           PRT;
                                                           STANDARD;
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                                                          CD93_MOUSE
089103;
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CD93_MOUSE
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               (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                         GDNNTSYSRWARLDLNGAPLCGPLCVA--VSAAEATVPSE-PIWEEQQC-----EVKAD 163
                                                                                                                                                                                                                                                                                                                                                                                                                                RCQCPAGAALQADGRSCIASATQSCNDLCE -- HFCVPNPDQPGSYSCMCETGYRLAADQH 321
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         (POTENTIAL).
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                                                                                                                                                                                                                                                                                2 LGVLVLGALALA--GLGFPAPAEPQPGGSQCVEHDCFALYPGPATFLNASQICDGLRGHL 59
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                                                                                                                                                                                                                                                                                                                                                  GGEDTPYSNWHKELRNSC--ISKRCVSLLLDLSQPLLPSRLPKWSEGPCGSPGSPGSNIE
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                                                                                                                                                                                                                                                                                                                                                                                                                 225 -CGEGDKDETQSHYFLCKEKAPDVFDWGSSGPLCVSPKYGCNFNNGGCHQDCFEGGDGSF
                                                                                                                                                                                                                                                                                                                                                                                                                                                            RCEDVDDCILEPSPCPQRCVNTQGGFECHCYPNYDLVDGECVEPVDPCFRANCEYQCQPL
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                                                                                                                                                . .) (POTENTIAL).
                                                                                                                                                                                                                                                           ; Pred. No. 1e-31;
55; Mismatches 209; Indels 124;
                                                                                                                                                                                                                                                    20.1%; Score 587; DB 1; Length 652;
EGF-LIKE 2.
EGF-LIKE 3, CALCIUM-BINDING
EGF-LIKE 4, CALCIUM-BINDING
EGF-LIKE 5, CALCIUM-BINDING
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(IN AA SEQUENCE).
(IN AA SEQUENCE).
(IN AA SEQUENCE).
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                                    68560 MW;
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Matches 182; Conservative
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652 AA;
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This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation -
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TISSUE SPECIFICITY: Expressed in lung, heart and bone marrow.

Expressed at lower level in ovary, whole embryo and fetal liver.

Not detected in brain, adult liver or thymus. Highly expressed in peritoneal cavity and bone marrow macrophages. Not detected in epithelial cells.

DEVELOPMENTAL STAGE: First detectable in day 9 embryos, in the
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                                                               15-JUN-2002 (Rel. 41, Created)
15-JUN-2002 (Rel. 41, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
15-JUN-2002 (Rel. 41, Last annotation update)
Complement Component Clg receptor precursor (Complement component 1, subcomponent, receptor 1) (ClgRp) (ClgR(p)) (Clg/MBL/SPA receptor)
(CD93 antigen) (Cell surface antigen AA4) (Lymphocyte antigen 68).
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-!- FUNCTION: Receptor (or element of a larger receptor complex) for CIG, mannose-binding lectin (MBL2) and pulmonary surfactant protein A (SPA). May mediate the enhancement of phagocytosis in monocytes and macrophages upon interaction with soluble defense collagens. May play a role in intercellular adhesion. Maxker for early multipotent hematopoeitic precursor cells. May play a role in cell-cell interactions during hematopoietic and vascular
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                                                                                                                                                                                                                                                                                                                                                                                       Mus musculus (Mouse).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STRAIN=129/Sv; TISSUE-Spleen, and Endothelial cells; MEDLINE-9935942; PubMed-10430665; NOSSWOTHDY P.3., Taylor P.R., Walport M.J., Botto M.; Cloning of the mouse homolog of the 126-kba human Clq/MBL/SP-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STRAIN=129/Sv;
PubMed=11074255;
Kim T.S., Park M., Nepomuceno R.R., Palmarini G., Winokur S.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Petrenko O., Beavis A., Klaine M., Kittappa R., Godin I.,
Lemischka I.R.;
644 AA
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27;
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C-TYPE LECTIN.

C-TYPE LECTIN.

EGF-LIKE 2.

EGF-LIKE 3, CALCIUM-BINDING (POTENTIAL).

EGF-LIKE 5, CALCIUM-BINDING (POTENTIAL).

EGF-LIKE 5, CALCIUM-BINDING (POTENTIAL).

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BY SIMILARITY.
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                                                                                                                                                                                                               MGD; MGI: 106664; Legra.

R MGD; MGI: 106664; Legra.

R InterPro; IPR000152; Asx_hydroxyl.

R InterPro; IPR000151; EGF-like.

R InterPro; IPR000181; EGF-Ca.

R InterPro; IPR0001304; Lectin_C.

R Ffam; PF00009; EGF; 5.

R SMART; SM00019; EGF.Ca; 1.

R SMART; SM00019; EGF_CA; 3.

R SMART; SM00010; EGF_Like; 2.

R RSART; SM00011; EGF_Like; 2.

R ROSITE; PS00001; C_TYPE_LECTIN_1; FALSE_NEG.

R PROSITE; PS010186; EGF_2; 3.

R RCSITE; PS01187; EGF_CA; 3.
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N-LINKED (GLCNAC. ..) (POTENTIAL).

N-LINKED (GLCNAC. ..) (POTENTIAL).
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COMPLEMENT COMPONENT CLQ RECEPTOR.
EXTRACELULAR (POTENTIAL).
POTENTIAL.
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30.2%; Pred. No. 4.3e-29;
ive 55; Mismatches 210; Indels
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                                                                                                                     EMBL; AF074856; AAC63274.1; --
EMBL; AF081789; AAC62649.1; --
EMBL; AF09939; AAD47906.1; --
EMBL; AF09938; AAD47906.1; JOINED.
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Best Local Similarity 30.2%
Matches 168; Conservative
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FUNCTION: Receptor (or exament of any pulmonary surfactant protein A (SPA). May mediate the enhancement of phagocytosis in monocytes and macrophages upon interaction with soluble defense collagens. May play a role in intercellular adhesion.

TISSUE SPECIFICITY: Widely expressed. Highly expressed in lung and heart. Expressed at lower level in brain, thymus, liver, spheen, intestine, kidney, adrenal gland, muscle and testis. Expressed on endothelial cells, platelets, undifferentiated monocytes and circulating natural killer cells.

PTM: N- and O-glycosylated (By similarity).
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STRAIN-PVG: TISSUE-Matural killer cells;
MEDLINE-20545218; PubMed=11093152;
Lovik G., Vaage J.T., Dissen E., Szpirer C., Ryan J.C., Rolstad B.;
"Characterization and molecular cloning of rat ClqRp, a receptor on NK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CD93_RAT STANDARD; PRT; 643 AA.

O9FT61; 09J126;

15-JUN-2002 (Rel. 41, Created)

15-JUN-2002 (Rel. 41, Last sequence update)

15-JUN-2002 (Rel. 41, Last annotation update)

15-JUN-2002 (Rel. 41, Last annotation update)

15-JUN-2002 (Rel. 41, Last annotation update)

16-JUN-2002 (Rel. 41, Last sequence update)

16-JUN-2002 (Rel. 41, Last sequence update)

16-JUN-2002 (Rel. 41, Last sequence update)

16-JUN-2002 (Rel. 41, Last sequence)

17-JUN-2002 (Rel. 41, Last sequence)

18-JUN-2002 (Rel. 41, Last sequence)

18-JUN-20
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PATCRPLAV-EPGAAAAAVSITYGTPFAARGADFQALPVGSSAAVAPLGLQ-----LM 223
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         441 DIDECEN--GGFCSGVCHNLPGTFECICGPDSALARHIGTDCDSG------KVD
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                                                                                                                                                                                                                                                                                                                                                            DCILEPSPCPQRCVNTQGGFECHCYPNYDLVDG----ECVEPVDPCFRANCEYQCQPLNQT
                                                            184 KGMCRPLALGGPG-----RVTYTTPFQATTSSLEAVPFASVANVA-CGDEAKSETHYFL
                                                                                                                  CT-APPGAVQGHWAREAP----GAWDCSVENGGCEHAC-NAIPGAPRCQCPAGAALQADG
                                                                                                                                                                           CNEKTPGIF--HWGSSGPLCVSPKFGCSFNNGGCQQDCFEGGDGSFRCGCRPGFRLLDDL
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                              This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a licensee agreement (see http://www.isb-sib.ch/announce/or send an email to licenseeisb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                 EGF-LIKE 2.

EGF-LIKE 3, CALCIUM-BINDING (POTENTIAL).

EGF-LIKE 4, CALCIUM-BINDING (POTENTIAL).

EGF-LIKE 5, CALCIUM-BINDING (POTENTIAL).

BY SIMILARITY.

BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        18.3%; Score 534.5; DB 1; Length 643;
29.9%; Pred. No. 2.8e-28;
Live 56; Mismatches 208; Indels 127; Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 4 VLVLGALALAGLGFPAPAEPQPGGSQCVEHDCFALYPGPATFLNASQICDGLRGHLMTVR 63
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N-LINKED (GLCNAC. ..) (POTENTIAL)
                                                                                                                                                                                                                                                                                                           Receptor: EGF-11ke domain; Signal; Transmembrane; Glycoprotein; Repeat; Lectin 1 23 DOMENDATAL
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-i- SIMILARITY: CONTAINS 1 C-TYPE LECTIN FAMILY DOMAIN.
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9AE4C933AD943DB6 CRC64;
                                                                                                                                                                                                                                                                                                                                                                  EXTRACELLULAR (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                      CYTOPLASMIC (POTENTIAL).
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SMART; SM00179, EGF.CA; 5.
PROSTRE; SM00101, EGF_1ke; 2.
PROSTRE; PS00010; ASX_HYDROXYL; 3.
PROSTRE; PS00615; C_TYPE_LECTIN_1; FALSE_NEG-PROSTRE; PS0041; C_TYPE_LECTIN_2; 1.
PROSTRE; PS01186; EGF.2; 3.
PROSTRE; PS01187; EGF_CA; 3.
                                                                                                                                                                                                                                                                                                                                                                                                C-TYPE LECTIN
EGF-LIKE 1.
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E -> K (I)
                                                                                                                                                    Interpro; IPR000152; Asx_hydroxyl.
Interpro; IPR000561; EGF-1ike.
Interpro; IPR001881; EGF_Ca.
Interpro; IPR001304; Lectin_C.
Pfam; PF00008; EGF; 5.
Pfam; PR00008; Lectin_C:
SMART; SM00034; CLECT; 1.
                                                                                                                       EMBL; AF136537; AAG01572.1; -. EMBL; AF160978; AAF80402.1; -.
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Best Local Similarity 29.9%
Matches 167; Conservative
                                                                                                                                               LEMN.
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643 AA;
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NTSYSRWARLDING--APLCGPLCVAVSAAEATVPSE-PIWEEQQCEV-----KADGFL 166
                                                                    121 DITYSNWYKASKSSCISKRCVSLILDLSLKPH--PSHLPKWHESPCGIPDAPGNSIEGFL 178
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            387 --TAAYSPCAQG-------CT-----NTDGSFYCSCKEGYIMSGEDST 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              421 QCEDIDEC-LGNPCDILCINIDGSFRGCPAGFELAPN-GVSCTRGSMFSELPARPPOKE 478
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-1- SIMILARITY: CONTAINS 7 TGF-BETA BINDING PROTEIN DOMAINS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Zhang H., Hu W., Ramirez F.;
"Developmental expression of fibrillin genes suggests heterogeneity
of extracellular microfibrils.";
J. Cell Biol. 129:1165-1176(1995).
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MEDLINE-94140368; PubMed-8307578;
Li X., Pereira L., Zhang H., Sanguineti C., Ramirez F., Bonadio J.,
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Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
NCBI_TaxID=10090;
                                                                                                                                                                                                 232 TNYYLCKETTAGV-FHWGSSGPLCVSPKFGCSFNNGGCQQDCFEGGDGSFRCGCRPGFRL
                                                                                                                                                                                                                                                                                                                                                                                                                                            274 QADGRSCTASATQSCNDLCEHFCVPNPDQPG-----SYSCMCETGYRLAADQHRC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    291 LDDLVTCAS-----RNPCSSNPCTGGGMCHSVPLSENYTCHCPRGYQLDSSQVHC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            324 EDVDDCILEPSPCPQRCVNTQGGFECHCYPNYDLVDG--ECVEPVDPCFRANCEYQCQPL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     382 NQTSYLCVCAEGFAPIPHEPHRCOMFCNQTACPADCDPNTQAS--CECPEGYIL--DDGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                138 ICTDIDECENGGFCSGVCHNLPGTFECICGPDSALARHIGTDCDSG------KV
                                                                                                                                               167 CEFHFPATCRPLAV-EPGAAAAVSITYGTPFAARGADFQALPVGSSAAVAPLGLQ----
                                                                                                                                                                                                                                                                                               222 ---LMCTAPPGAVQGHWAREAP----GAWDCSVENGGCEHAC-NAIPGAPRCQCPAGAAL
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15-DEC-1998 (Rel. 37, Created)
15-DEC-1998 (Rel. 37, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
15-JUN-1111n 2 precursor.
FBN2 OR FBN-2.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            486 DGGDSGSGEPPPSPTPGS 503
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DKGDGKESTVPLTEMPGS 496
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EGF-LIKE 42, CALCIUM-BINDING.
EGF-LIKE 43, CALCIUM-BINDING.
EGF-LIKE 44, CALCIUM-BINDING.
EGF-LIKE 45, CALCIUM-BINDING.
EGF-LIKE 46, CALCIUM-BINDING.
EGF-LIKE 47, CALCIUM-BINDING.
EGF-LI
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                                                                                                                                                                                                                                                                                                                                                                        PROSTTE; PS00010; ASX_HYDROXYL; 43.
PROSTTE; PS01166; PSCF_2; 38.
PROSTTE; PS01166; PSCF_2; 38.
PROSTTE; PS011186; PSC_A; 43.
EXtracellular matrix; Calcium-binding; Glycoprotein; EGF-like domain; Repeat; Signal; Multigene family.
                     microfibrils including the molecular cloning of MaGP-2 (MP25).";
J. Biol. Chem. 271:1096-1103(1996).
-!-FUNCTION: STRUCTURAL COMPONENT OF CONNECTIVE TISSUE MICROFIBRILS
THAT BINDS CALCIUM, FIBRILIN-1-CONTAINING MICROFIBRILS PROVIDE
LONG-TERM FORCE BEARING STRUCTURAL SUPPORT.
-!- PTM: FORMS INTERMOLECULAR DISULFIDE BONDS EITHER WITH OTHER
FIBRILLIN-1 MOLECULES OR WITH OTHER COMPONENTS OF THE
MICROFIBRILS.
-!- SIMILARITY: CONTAINS 7 TGF-LIKE DOMAINS.
-!- SIMILARITY: CONTAINS 7 TGF-BETA BINDING PROTEIN DOMAINS.
  Nicholl J.K., Sutherland G.R., Cleary E.G.; "Further characterization of proteins associated with elastic fiber
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRO-RICH.
EGF-LIKE 6.
EGF-LIKE 7.
CALCIUM-BINDING.
EGF-LIKE 8, CALCIUM-BINDING.
EGF-LIKE 9, CALCIUM-BINDING.
EGF-LIKE 10, CALCIUM-BINDING.
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EGF-LIKE 3.
EGF-LIKE 4.
EGF-LIKE 5, CALCIUM-BINDING.
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EGF-LIKE 14, C

TOFBD 3.

EGF-LIKE 15, C

EGF-LIKE 16, C

EGF-LIKE 17, C

EGF-LIKE 19, C

EGF-LIKE 19, C

EGF-LIKE 21, C

EGF-LIKE 22, C

EGF-LIKE 22, C

EGF-LIKE 22, C

EGF-LIKE 22, C
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EGF-LIKE 12,
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EGF-LIKE 25,
EGF-LIKE 26,
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Interpro; IPR001561; EGF-like.
Interpro; IPR001881; EGF_Ga.
Interpro; IPR001438; EGF_II.
Interpro; IPR002121; Fibril-assoc.
                                                                                                                                                                                                                                       EMBL; L28748; AAA74122.1; -. HSSP; P35555; 1APJ.
                                                                                                                                                                                                                                                                                                                 Pfam: PF00008; EGF; 46.
Pfam: PF00683; TB: 9.
SMRTKTS: PR001019; EGFBLOOD.
SMART; SW00179; EGF_CA; 42.
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Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
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MEDLINE=95137597; PubMed=7835900;
Tilstra D.J., Potter K.A., Byers P.H.;
"Sequence of the coding region of the bovine fibrillin cDNA and localization to bovine chromosome 10.";
Genomics 23:480-485(1994).
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24; Mismatches 92; Indels
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01-OCT-1996 (Rel. 34, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
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MEDLINE-96132851; PubMed-8557636;
   15-JUN-2002 (Rel. 41, Last ann Fibrillin 1 precursor (MP340).
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Best Local Similarity 32.9%;
Matches 102; Conservative 2
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InterPro; IPRR0015; Asx_hydroxyl.

InterPro; IPRR00151; BcF-1ike.

InterPro; IPRR00181; EGF-1ike.

InterPro; IPRR00181; EGF-Ca.

InterPro; IPRR00181; EGF-Ca.

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                                                                                                                                                                                                                     -!- SUBUNIT: HOMOTRIMER; DISULFIDE-LINKED.
-!- SUBCELLULAR LOCATION: EXTRACELLULAR MATRIX. COMPONENT OF BOTH
BASEMENT MEMBRANES AND OTHER CONNECTIVE TISSUES.
-!- TISSUE SPECIFICITY: EXPRESSED IN HEART, PLACENTA AND OVARY.
-!- SIMILARITY: CONTAINS 3 ANAPHYLATOXIN-LIKE DOMAINS.
                                   ANAPHYLATOMEN-LIKE 1.
ANAPHYLATOMEN-LIKE 2.
ANAPHYLATOMEN-LIKE 2.
EGF-LIKE 1.
EGF-LIKE 2.
EGF-LIKE 3.
CALCIUM-BINDING.
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EGF-LIKE 6.
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EGF-LIKE 7.
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21; 531 EGGSCESNPNLGYPCN-HVMLSCCEGEEPLIVPEVRRPPEPAAAPRRVS-----EAEM 582 202 ADFQALPVGSSAAV---APLGLQLMCTAPPGAVQGHWAREAPGAWDCSVENGGCEHACNA 258 583 AGREALSLGTEAELPNSLPGDDQDECLLLPGEL-------CQHLCIN 622 287 682 343 683 CKDNGPCKQVC---STVGGSAICSCFPGYAIMADGVSCEDINECVTDLHTCSRGEHCVNT 739 389 ---CAEGFAPIPH-------EPHRCQMFCNQTACPADCDPNTQASCECPEGY-I 432 793 RORCMDGFLQDPEGNCVDINECTSLSEPCRPGFSCINTVGSYTCORNPLI --- CARGYHA 849 154 EEQQCEVKAD-GFLCEFHFPATC----RPLAV-----EPGAAAAAVSITYGTPFAARG 201 Gaps 623 TVGSYHCACFPGFSLQDDGRTCRPEGHPPQPEAPQEPALKSEFSQVASNTIPLPLPPQPNT 288 CND--LCEHFCVPNPDQPGSYSCMCETGYRLAADQHRCEDVDDCILEPSPCP--QRCVNT 344 QGGFECH----CYPNYDLVDGECVEPVDPCFRANCEYQCQPLNQTSYLCV------259 IPGAPRCQCPAGAALQADGRSC-----QS Ouery Match 12.6%; Score 367.5; DB 1; Length 1184; Best Local Similarity 30.0%; Pred. No. 4.7e-17; Matches 119; Conservative 29; Mismatches 124; Indels 125; 433 LDDGFICTDIDECENGGFCSG---VCHNLPGTFECIC 466 2871 AA

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ECF-LIKE 15, CALCIUM-BINDING.
ECF-LIKE 16, CALCIUM-BINDING.
ECF-LIKE 19, CALCIUM-BINDING.
ECF-LIKE 20, CALCIUM-BINDING.
ECF-LIKE 21, CALCIUM-BINDING.
ECF-LIKE 22, CALCIUM-BINDING.
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ECF-LIKE 25, CALCIUM-BINDING.
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ECF-LIKE 29, CALCIUM-BINDING.
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                                                                                                             RECUENCE FROM N.A.

RECUENCE FROM N.A.

TISSUE-Lung;

RECUENCE-99156858; PubMed=10036187;

RECUENCE-99156858; PubMed=10036187;

RECUENCE-99156858; PubMed=10036187;

RECUENCE-99156858; PubMed=10036187;

RECUENCE-9156858; PubMed=10036187;

RECUENCE-1000 FBN1 and significance for regulated gene expression.;

CC - FUNCTON: STRUCTURAL COMPONENT OF CONNECTIVE TISSUE MICROFIBRILS PROVIDE CC LONG-TERM FORCE BEARING STRUCTURAL SUPPORT.

CC - FORM: FORMS INTERMOLECULAR DISULFIDE BONDS EITHER WITH OTHER FIRBILLIN-1 MOLECULES OR WITH OTHER COMPONENTS OF THE MICROFIBRILS.

CC - FIRBILLIN-1 MOLECULES OR WITH OTHER COMPONENTS OF THE MICROFIBRILS.

CC - SIMILARITY: CONTAINS 7 TGF-BETA BINDING PROTEIN DOMAINS.

CC - SIMILARITY: CONTAINS 7 TGF-BETA BINDING PROTEIN DOMAINS.

CC - SIMILARITY: CONTAINS 7 TGF-BETA BINDING PROTEIN DOMAINS.
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R HSSP; P3555; 1APJ.

R HSSP; P35555; 1APJ.

R INTERPRO; IPR00152, Asx.hydroxyl.

R InterPro; IPR001681; EGF_clike.

BR InterPro; IPR001881; EGF_clike.

BR InterPro; IPR001881; EGF_clike.

BR InterPro; IPR001212; Fibril-assoc.

BR InterPro; IPR00181; EGF_LOD.

BR PRINTS; PR00101; EGF_BLOOD.

BR SWART; SW00101; EGF_LOD.

BR SWART; SW00001; EGF_LOD.

BR SWART; SW00001; EGF_LOD.

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BR PRINTS; PR00101; EGF_LOD.

BR SWART; SW00001; EGF_LOD.

BR PRINTS; PR00118; EGF_LOD.

BR PROSITE; PS01186; EGF_LOD.

BR PROSITE; 
                                                             Sus scrofa (Pig).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.
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16-OCT-2001 (Rel. 40, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
Fibrillin 1 precursor.
                                                                                                    NCB1_TaxID=9823;
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QY 448 GGF	RESULT 11 FBN2_HUMAN ID FBN2_HUMAN STANDARD; PRT; 2911 AA. A P355556; DT 01-TUN-1994 (Rel. 29, Created) DT 01-FB-1996 (Rel. 33, Last sequence update) DT 15-TUN-2002 (Rel. 41, Last annotation update) DE Fibrillin 2 precursor.	FBN2. FBN2. Eukaryota; M Mammallia; Eu NCBI_TaxID=9 (1) SEQUENCE FRO MEDLINE=9416 Zhang H., Ap Bonadio J., Structure a component professor.	RN [2] RX SEQUENCE OF 752-1505 FROM N.A. RA DEDLINE-91304567; PubMed=1852206; RA Lee B., Godfrey M., Vitale E., Hori H., Mattel MG., Sarfarazi M., RA Tsipouras P., Ramirez F., Hollister D.; RT "Linkage of Marfan syndrome and a phenotypically related disorder to RT two different fibrillin genes."; RL Nature 352:330-334(1991). RN [3] RP WARIANTS CCA TYR-1252 AND SER-1433, AND VARIANT ILE-964. RX MEDLINE-96083599; PubMed=7493032; RX MEDLINE-96083599; PubMed=7493032; RA Putnam E.A., Zhang H., Ramirez F., Milewicz D.M.; RT "Fibrillin-2 (FBN2) mutations result in the Marfan-like disorder, RT Congenital Contractural arachnodactyly.";		RA Belleh S., Zhou G., Wang M., Der Kaloustian V.M., Pagon R.A., RT Godfrey M.; RT archnodactyly."; An. J. Med. Genet. C
821 830 845 926 935 1044	1055 1068 BY 1074 1086 BY 1091 1095 BY 1117 1129 BY 1140 1153 BY 1140 1153 BY 1159 1171 BY 1159 1171 BY 1159 1171 BY 1150 BY 1150 BY 1151 BY 1	1208 1221 BY 1242 1243 BY 1249 1254 BY 1265 1278 BY 1265 1278 BY 1291 1305 BY 1307 1320 BY 1310 BY 1361 BY 1360 BY 136	SULFID 1391 1402 BY SULFID 1408 1420 BY SULFID 1408 1420 BY SULFID 1455 1461 BY SULFID 1456 1470 BY SULFID 1497 1511 BY SULFID 1497 1511 BY SULFID 1610 1622 BY SULFID 1610 1622 BY SULFID 1610 1622 BY SULFID 1613 BY SULFID 1613 BY SULFID 1653 1646 BY SULFID 1652 1645 BY SULFID 1652 1645 BY SULFID 1652 1645 BY SULFID 1652 1653 BY SULFID 1652 1653 BY SULFID 1652 1653 BY SULFID 1655 1653 BY SULFID 1655 1653 BY SULFID 1655 BY S	1674 1687 1770 1782 1777 1791 1793 1806 1812 1824 1818 1833 1853 1867 1853 1867 12.6%; imilarity 30.6%;	NAIPGAPRCQCPAGAALQADGRSCTASATQSCNDLCEHFCVPNP

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EGF-LIKE 37, CALCIUM-BINDING.
EGF-LIKE 39, CALCIUM-BINDING.
EGF-LIKE 40, CALCIUM-BINDING.
TGFBP 7.

EGF-LIKE 41, CALCIUM-BINDING.
EGF-LIKE 42, CALCIUM-BINDING.
EGF-LIKE 44, CALCIUM-BINDING.
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the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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Gaps

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1411 CSNGTHQCSINAQC-VNTPGSYRCACSEGF-TGDGFTCSDVDECAENINLCENGQCLNVP 1468
                                                                                                                                                   1469 GAYRCECEMGFTPASDSRSCQDIDECSFQNICVSGTCNNLPGMFHCICDDGYELDRIGGN 1528
                                                   403
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       -----QPGSYSCMCETGYRLAADQHRCEDVDDCILEPSPCP-QRCVNTQGGFECHCYP 353
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Lee B., Godfrey M., Vitale E., Hori H., Mattei M.-G., Sarfarazi M.,
Tsipouras P., Ramirez F., Hollister D.W.;
"Linkage of Marfan syndrome and a phenotypically related disorder to
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MEDLINE-91317849; PubMed-1860873;
Sakai L.Y., Keene D.R., Glanville R.W., Bachinger H.P.;
"Purification and partial characterization of fibrillin, a cysteinerich structural component of connective tissue microfibrils.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Maslen C.L., Corson G.M., Maddox B.K., Glanville R.W., Sakai L.Y.; "Partial sequence of a candidate gene for the Marfan syndrome."; Nature 352:334-337(1991).
                                                  NYDLVDGE--CVEPVDPC--FRANCEYQCQPLN-QTSYLCVCAEGFAPIPH-----EPHR
                                                                                            COMFCNQTACPADCDPNTQAS--CECPEGYILDDGFICTDIDE-----CENG-----
                                                                                                                                       -----CSGVCHNLPGTFECICGPDSALARHIG-
                                                                                                                                                                                                                                                                                                                                                Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostoml;
Mammalia; Eutheria; Primates; Catarrhin1; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                            "Genomic organization of the sequence coding for fibrillin, the defective gene product in Marfan syndrome."; Hum. Mol. Genet. 2:961-968(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                          Pereira L.V., D'Alessio M., Ramirez F., Lynch J.R., Sykes B.,
                                                                                                                                                                                                                                                                                 (Rel. 29, Created)
(Rel. 29, Last sequence update)
(Rel. 41, Last annotation update)
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TISSUENCE OF 1-932 FROM N.A.
TISSUE-Placenta, and Fibroblast;
MEDLINE-94010947; PubMed=7691719;
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MEDLINE-91304568; PubMed-1852207;
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                                                                                                                                       -------GE------
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TISSUE-Placenta;
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MEDLINE-93250834; PubMed-1301946; Dietz H.C., Sarativa J.M., Pyeritz R.E., Cutting G.R., Francomano C.A.; "Clustering of fibrillin (FBN1) missense mutations in Marfan syndrome patients at cysteine residues in BGF-like domains.";
                                                                                                                                                                                                                                                                                                                                         STRUCTURE BY NMR OF 2124-2205.
MEDDINE-961446129; DubMed-8566869;
Rnott V., Downing A.K., Cardy C.M., Handford P.A.;
"Calcium binding properties of an epidermal growth factor-like domain pair from human fibrillin-1.";
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   in
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                                                                    STRUCTURE BY NMR OF 2054-2125.
MEDDLINE-98031893; PubMed-9362480;
Yuan X., Downing A.K., Knott V., Handford P.A.;
"Solution structure of the transforming growth factor beta-binding protein-like module, a domain associated with matrix fibrils.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE=96174615; PubMed=8594563;
Collod G., Beroud C., Soussi T., Junien C., Boileau C.;
"Software and database for the analysis of mutations in the human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE-97169383; PubMed-9016526; Collod-Beroud G., Back C., Boxer M., Brock D Collod-Beroud G., Back C., Allewicz D., Peltonen L., Richards R.I., Wang W., Junien C., Boileau C.; Martunen L., Milewicz D., Peltonen L., Richards R.I., Wang W., Junien C., Boileau C.; Marfan Database (second edition): software and database for the analysis of mutations in the human FBNI gene.";
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Dietz H.C., Cutting G.R., Pyeritz R.E., Maslen C.L., Sakai L.Y., Corson G.M., Puffenberger E.G., Hamosh A., Nanthakumar E.J., Curristin S.M., Stetten G., Meyers D.A., Francomano C.A.;
Marfan syndrome caused by a recurrent de novo missense mutation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE=96222301; PubMed=8653794;
Downing A.K., Knott V., Werner J.M., Cardy C.M., Campbell I.D.,
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Hayward C., Brock D.J.H.;
"Fibrillin-1 mutations in Marfan syndrome and other type-1
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Biol. Chem. 266:14763-14770(1991).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         gene. 7,
J. Clin, Invest, 89:1674-1680(1992).
[15]
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mol. Biol. 255:22-27(1996).
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                                                                                                                                                                                                                                                                    EMBO J. 16:6659-6666(1997)
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Nature 352:337-339(1991).
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cell 85:597-605(1996).
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VARIANT MFS CYS-627.
MEDLINE-44272487; PubMed=8004112;
MEDLINE-C., Rac A.L., Porteous M.E.M., Logie L.J., Brock L.J.;
Maywand C., Rac A.L., Porteous M.E.M., Logie L.J., Brock L.J.;
"Two novel mutations and a neutral polymorphism in EGF-like domains of the fibrillin gene (FBN1): SSCP screening of exons 15-21 in Marfan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    growth
                                                                                                                                                                                                               Hewett D.R., Lynch J.R., Smith R., Sykes B.C.; A novel fibrillin mutation in the Marfan syndrome which could disrupt calcium binding of the epidermal growth factor-like module."; Hum. Mol. Genet. 2:475-477(1993).
                                                                              level
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MEDLINE-94108431; PubMed-8281141;
Tynan K., Comeau K., Pearson M., Wilgenbus P., Levitt D., Gasner C.,
Berg M.A., Miller D.C., Francke U.;
"Mutation screening of complete fibrillin-1 coding sequence: report
of five new mutations, including two in 8-cysteine domains.";
Hum. Mol. Genet. 2:1813-1821(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VARIANTS MFS G-217; N-1023; R-1074; Y-1242; R-1513; E-2127; W-2151;
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VARIANTS MFS ILE-548 AND ALA-723.
MEDLINE=94010946; PubMed=8406497;
Dietz H.C., McIntosh I., Sakai L.Y., Corson G.M., Chalberg S.C.,
Pyeritz R.E., Francomano C.A.;
"Four novel FBN1 mutations: significance for mutant transcript levand EGF-like domain calcium binding in the pathogenesis of Marfan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              mutation of the fibrillin gene causing ectopia lentis.";
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MEDLINE-94184368; PubMed-8136837;
Kainulainen K., Karttunen L., Puhakka L., Sakai L., Peltonen L.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Rattunen L., Raghunath M., Loennqvist L., Peltonen L.;
As compound-heterozygus Marfan patient: two defective fibrillin
alleles result in a lethal phenotype.";
Am. J. Hum. Genet. 55:1083-1091(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE-94245249; PubMed-8188302;
Lonnqvist_ L., Child A., Kainulainen K., Davidson R., Puhakka L.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDILINE-94314977; PubMed-8040326; Stahl-Hallengren C., Ukkonen T., Kainulainen K., Kristofersson Saxne T., Tornqvist K., Peltonen L.; "An extra cysteine in one of the non-calcium-binding epidermal factor-like motifs of the Fably polypeptide is connected to a no variant of Marfan syndrome.";
J. Clin. Invest. 94:709-713(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VARIANT MES TYR-1223.
MEDLINE-94351682; PubMed-8071963;
HEWELT D.R., Lynch J.R., Child A., Sykes B.C.;
"A new missense mutation of fibrillin in a patient with Marfan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Hayward C., Porteous M.E.M., Brock D.J.H.;
*A novel mutation in the fibrillin gene (FBN1) in familial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1. Cell. Probes 8:325-327(1994)
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MEDLINE-95067970; PubMed=7977366;
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MEDLINE-93278402; PubMed-8504310;
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This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its
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STRAIN=CD-1; TISSUE=Kidney;
Ota K., Kumar A., Wada J., Liu Z., Kanwar Y.S.;
SUDMITTED A., Wada J. Liu Z., Kanwar Y.S.;
SUDMITTED A., Wada J., Liu Z., Kanwar Y.S.;
SUDMITTED A., Wada J., Liu Z., Kanwar Y.S.;
SUDMITTED STRUCTURAL COMPONENT OF CONNECTIVE TISSUE MICROFIBRILS
THAT BINDS CALCIUM. FIBRILLIN-1-CONTAINING MICROFIBRILS PROVIDE
LONG-TERM FORCE BEARING STRUCTURAL SUPPORT.
-I- FTW.: FORMS INTERMOLECULER DISULFIDE BONDS EITHER WITH OTHER
FIBRILLIN-1 MOLECULES OR WITH OTHER COMPONENTS OF THE
MICROFIBRILS (BY SIMILARITY).
-I- SIMILARITY: CONTAINS 47 EGF-LIKE DOMAINS.
-I- SIMILARITY: CONTAINS 7 TGF-BETA BINDING PROTEIN DOMAINS.
                                                                                                                                                                                                                                                                                                                                                      398
                                                                                                                                                                                                                                                                          301 -----DQPGSYSCMCETGYRLAADQHRCEDVDDCILEPSPC-PQRCVNTQGGFECHCYP 353
                                                                                                                                                                                                244 DCSVENGGCEHACNAIPGAPRCQCPAGAALQADGRSCTASAIQSCNDLCEHFCVPNP--- 300
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SEQUENCE FROM N.A.
MEDILINE-95130561; PubMed=7829516;
Yin W., Germiller J., Sanguineti C., Smiley E., Pangilinan T.,
Pereira L., Ramirez F., Bonadio J.;
Primary structure and developmental expression of Fbn-1, the mouse fibrillin gene.',
                                                                                                                                                                                                                                                                                                                                                                            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Euthazoa; Rodentia; Sciurognathi; Muridae; Musinae; Mus
NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                      354 NYDLVDGE--CVEPVDPC--FRANCEYQCQPLNQT-SYLCVCAEGFA------PIP
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"Mutations in the fibrillin gene responsible for dominant ectopia lentis and neonatal Marfan syndrome.", Nat. Genet. 6:64-69(1994).
                                                                                                                      12.5%; Score 364; DB 1; Length 2871; 30.8%; Pred. No. 1.8e-16; ive 22; Mismatches 105; Indels 122;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FBNI_MOUSE STANDARD; PRT; 2871 AA. 061554; 066826; 01-NOV-1997 (Rel. 35, Created) 11-NOV-1997 (Rel. 35, Last sequence update) 15-JUN-2002 (Rel. 41, Last annotation update)
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[2]
                                                                                                                                            Best Local Similarity 30.8
Matches 111; Conservative
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                                                                                                                                                                                                                                                        372 ANCEYOCOPLNOT-SYLCVCAEGFA-----PIPHEPHRCOMFCNOTACPADCDPN 420
                                                                                                                                                                   SAAVAPLGL-----QLMCTAPPGAVQGHWAREAPGAWDCSVENGGCEHACNAIPGAPRC 265
                                                                                                                                                                                                                           317 AADQHRCEDVDDCILEPSPC-PQRCVNTQGGFECHCYPNYDLVDGE--CVEPVDPC--FR 371
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TISSUB-FIDTOD1ast;
MEDIJINE-94064787; PubMed-8245130;
Pan T.-C., Sasaki T., Zhang R.-Z., Faessler R., Timpl R., Chu M.-L.;
"Structure and expression of fibulin-2, a novel extracellular matrix
protein with multiple EGF-like repeats and consensus motifs for calcium binding.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
NCBI_TaxID=10090;
                                                                                                                                      Score 362; DB 1; Length 2871; Pred. No. 2.5e-16; 26; Mismatches 127; Indels 128;
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RECLINE-9933/065; PubMed-10406556;

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RECLINE-9933/065; PubMed-1040656;

RECLINE-993/065; PubMed-1040659;

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RECLINE-993/065; PubMed-104069;

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MEDLINE=97238863; PubMed=9083061;
Deak F., Piecha D., Bachrati C., Paulsson M., Kiss I.;
Primary structure and expression of matrilin-2, the closest relative of cartilage matrix protein within the von Willebrand factor type A-like module superfamily.";
J. Biol. Chem. 272:9268-9274(1997).
                                 CVDINECVIDLHTCTRAEHCVNTPGSFQCYKALICEPGYVLTDGECTD-VDECVTGTHNC 812
                  273 LQADGRSC----TASATQSCNDLCEHFCVPNPDQPGSYSC----MCETGYRLAADQHR 322
                                                                                                                          E--YQCQPLNQTSYLCV----CAEGFAPIPH-------EPHRCQMFCNQTACPA 415
                                                                                                                                           CEDVDDCILEPSPC--PQRCVNTQGGFECH----CYPNYDLVDGECVEPVDPCFRA--NC 374
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -:- SUBCELLULAR LOCATION: Secreted.
-:- ALTENATIVE PRODUCTS: 2 ISOFORNS; A LONG FORM (SHOWN HERE) AND A SHORT FORM; A REPRODUCTS BY ALTENATIVE SPLICING.
-:- SIMILARITY: CONTAINS 10 EGF-LIKE DOMAINS.
-:- SIMILARITY: CONTAINS 2 VWFA DOMAINS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Muratoglu S., Krysan K., Balazs M., Sheng H., Zakany R., Modis L., Kiss I., Deak F.; Primary structure of human matrilin-2, chromosome location of the MATN2 gene and conservation of an AT-AC intron in matrilin genes."; Cytogenet. Cell Genet. 90:323-327(2000).
                                                                                                                                                                               416 DCDPNTQASCECPEGY-ILDDGFICTDIDECENGGFCSG---VCHNLPGTFECICGP 468
                                                                                                                                                                                             Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Duesterhoeft A., Lauber J., Mewes H.-W., Gassenhuber J., Wiemann Submitted (JAN-2000) to the EMBL/GenBank/DDBJ databases.
-!- FUNCTION: INVOLVED IN MATRIX ASSEMBLY (BY SIMILARITY).
                                                                                                                                                                                                                                                                                      000339; Q9NsZ1;
30-MAT-2000 (Rel. 39, Created)
16-0CT-2001 (Rel. 40, Last sequence update)
16-0CT-2001 (Rel. 40, Last annotation update)
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                                                                                                                                                                                                                                                                           STANDARD;
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EGF-LIKE 3, CALCIUM-BINDING (POTENTIAL).
EGF-LIKE 4, CALCIUM-BINDING (POTENTIAL).
EGF-LIKE 5, CALCIUM-BINDING (POTENTIAL).
EGF-LIKE 6, CALCIUM-BINDING (POTENTIAL).
EGF-LIKE 7, CALCIUM-BINDING (POTENTIAL).
EGF-LIKE 8, CALCIUM-BINDING (POTENTIAL).
EGF-LIKE 10, CALCIUM-BINDING (POTENTIAL).
EGF-LIKE 11, CALCIUM-BINDING (POTENTIAL).
EGF-LIKE 11, CALCIUM-BINDING (POTENTIAL).
EGF-LIKE 11, CALCIUM-BINDING (POTENTIAL).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             580 LGTEAELPNSLPGDDQDECLMLPGELCQHLCINTVGSYRCACFPGFELQGDGRTCRPDRG
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Q -> QQ (IN REF. 2).
Q -> E (IN REF. 2).
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V -> E (IN REF. 3).
R -> G (IN REF. 2).
E -> L (IN REF. 2).
L -> F (IN REF. 2).
S2687F347178FC80 CRC64;
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CONFLICT
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Gaps

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ilarity 31.6%; Conservative 4

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CRINYCALNKPGCEHECVNMEE-SYXCRCHRGYTLDPNGKTCSRVDHCAQQDHGCEQLC 458
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                                                                                                                                                            CSVENGGCEHACNAIPGAPRCOCPAGAALQADGRSCIA-SATQSCNDLCEHFCVPNPDQP 303
                                                                                                                                              NQTACPADCDPNTQAS -- CECPEGYILDDGF-ICTDIDEC --- ENGGFCSGVCHNLPGTF
                                               GSYSCMCETGYRLAADQHRCEDVDDCILEPSPCPQRCVNTQGGFECHCYPNYDL-VDGEC
                                                                                                363 VEPVDPCF--RANCEYQCQPLNQTSYLCVCAEGFAPIPH------EPHRCQMFC
                                                                                                                                                                                                              ECICGPDSALARHIGTDCDSGKVDG---GDSG 491
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Job time : 19.5 secs
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us-09-509-994-2.rspt

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GenCore version 5.1.3

Copyright (c) 1993 - 2002 Compugen Ltd.

OM protein - protein search, using sw model

Run on: December 16, 2002, 17:22:32; Search time 31.5 Seconds

(without alignments)
3375.248 Million cell updates/sec

Title: US-09-509-994-2
Perfect score: 2916
Sequence: 1 MLGVLVLGALALAGLGFPAP........PSPTPGSTLTPPAVGLVHSG 516
Scoring table: BLOSUM62
Gapop 10.0, Gapext 0.5
Searched: 671580 seqs, 206047115 residues

Total number of hits satisfying chosen parameters: 671580
Minimum DB seq length: 0
Maximum DB seq length: 2000000000
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Database : SPTREMBL_21:*
1: Sp_archea:*
2: Sp_bacteria:*
3: Sp_fung1:*
4: Sp_human:*
5: Sp_invertebrate:*
6: Sp_nammal:*
7: Sp_mhc:*
8: Sp_organel:*
9: Sp_phage:*
10: Sp_phage:*
11: Sp_rodent:*
12: Sp_vortebrate:*
13: Sp_vortebrate:*
14: Sp_unclassified:*
15: Sp_archeap:*
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Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

	Description	Q9uc32 homo sapien	035370 rattus norv	P97883 rattus norv	Oghcu0 homo sapien	Q91zv1 mus musculu	O91v98 mus musculu	09tvq2 caenorhabdi	088281 rattus norv	Q9vs89 drosophila	P87363 gallus gall	Q9wuh9 rattus norv	075095 homo sapien	088840 mus musculu	0961p8 homo sapien	Q9wuh8 rattus norv	Q9cxd8 mus musculu
	OI .	Q9UC32	035370	P97883	Q9HCU0	Q912V1	Q91V98	Q9TVQ2	088281	Q9VS89	P87363	6HDM60	075095	088840	096лр8	б в минв	Q9CXD8
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	Length	468	577	461	757	765	765	1664	1574	1394	708	2906	1246	3857	2809	2872	528
Query	Match	91.2															
	Score	2658	1844	1400.5	584.5	575	575	431	414	386	376	375	369	367	365	361	359
Result		-	7	e	4	S	9	7	8	6	10	11	12	13	14	15	16
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099k58 mus musculu Q96ft5 homo sapien Q96hb9 homo sapien Q9ns15 homo sapien Q917k2 homo sapien		>- 1	OSSENO FATLUS NOLV OSRGJ6 homo sapien OSRJ49 mus musculu Q9tzsl caenorhabdi Q8r542 mus musculu Q9bi05 eimeria ten	USYSO MUS MUSCULU Q50784 MUS MUSCULU Q50111 clona intes Q51810 mus musculu Q80495 homo sapien Q964f5 homo sapien Q21587 caenorhabdi Q91js0 mus musculu
11 099K58 4 096FT5 4 096HB9 4 09NS15 4 09H7K2	4 Q96K89 4 O75412 4 O00508 4 Q96RW7 4 O9Y3V7	11 060789 5 08883 4 096863 11 096006	11 088349 5 09TZS1 11 Q8R542 5 09TZS1 11 Q8R542 11 Q8R542	11 060784 5 09BLJ1 11 061810 4 08TD95 4 096TF5 5 023587 11 09JJS0
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17 18 19 20 21	222 223 254 265	27 28 30 30	1 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	0 6 6 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4

ALIGNMENTS

omi; Aoki N.;	Repeat.	Gaps
Euteleostom1; Homo. mura S., Aoki	ation;	468;
te) te) ta; Eute dae; Hon terizat	Hydroxylation; CRC64;	Length 468; Indels
1 1 2 2 2 2 2 PRELIMINARY; PRT; 468 AA. 209UC32; 01-MAY-2000 (TrEMBLrel. 13, Created) 01-MAY-2000 (TrEMBLrel. 13, Last sequence update) 01-MAY-2000 (TrEMBLrel. 13, Last sequence update) 101-MAY-2000 (TrEMBLrel. 19, Last annotation update) 101-MAY-2000 (TrEMBLrel. 19, Last annotation update) 101-DEC-2001 (TrEMBLrel. 19, Last annotation update) 101-DEC-2001 (TrEMBLrel. 19, Last annotation update) 102-DEC-2001 (TrEMBLrel. 19, Last annotation update) 103-DEC-2001 (TrEMBLrel. 19, Last annotation update) 103-DEC-2001 (TrEMBLrel. 19, Last sequence update) 103-DEC-2001 (TrEMBLrel. 19, Last sequence update) 103-DEC-2001 (TrEMBLS) 103-DEC-2001 (L. domain; Glycoprotein; MW; 4BFE8E98EFB86A40	Score 2658; DB 4; Pred. No. 8.4e-205; ; Mismatches 1;
468 AA. d) equence up nnotation lata; Vert rrhinl; Ho rion and c	Glусорт E8E98EF	Score 2658; DB 4; Pred. No. 8.4e-205; Mismatches 1
ILNARY; PRT; ULTEL. 13, Created) ULTEL. 13, Last seq ULTEL. 19, Last ann IN); Chordata; Crania I; Primates; Catarr I; EGF. 1. I; EGF. 1. I; Thrmbomoduln. I; 4. Lectin_C. I; Thrmbomoduln. I; 4. Lectin_C. I; HRMBOMODULN. I; 4. Lectin_C. I; HRMBOMODULN. I; 4. CATAPE_LECTIN_C; 1	omain; V; 4BF	Score Pred. 0; Mi
LINARY; PRT. Lrel. 13, Create Lirel. 13, Last strel. 19, EGF-11ke. 1; EGF-11ke. 1; EGF-Ca. 1; ThrmDomoduln 1; EGF-Ca. 1; ThrmDomoduln 1; 4. 1; EGF-Ca. 1; EGF-Ca. 2; 2; 2; 2; 2; 2; 2; 2; 2; 2; 2; 2; 2; 2		91.2%; 99.8%; ive
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Eukaryota, Metazoa: Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia: Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
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                                                                                                GGVGRRRLWIGLQLPPGCGDPKRLGPLRGFQWVTGDNNTSYSRWARLDLNGAPLCGPLCV 138
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               78
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               421 CTDIDECENGGECSGVCHNLPGFFECICGPDSALARHIGTDCDSGKVD 468
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STRAIN-SPRAGUE-DAWLEY; TISSUE-LUNG; Wang J., Yao A., Wang J.Y., Hardin J.W., Hauer-Jensen M. Submitted (SEP-1997) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Yao A., Wang J., Hardin J.W., Hauer-Jensen M.;
Submitted (OCT-1997) to the EMBL/GenBank/DDBJ databases
EMBL, AF0227423, AAB80760.1;
EMBL, AF0227422, AAB80923.1;
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Last sequence update)
Last annotation update)
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HSSP, P0722/43, 1EGD.
InterPro; IPR000152; Asx_hydroxyl.
InterPro; IPR0001561; EGF-like.
InterPro; IPR001804; EGF-like.
InterPro; IPR001491; Thrmbomoduln.
Pfam; PF00008; EGF; 5.
Pfam; PF00008; EGF; 5.
PRINTS; PR00907; THRMBOMODULN.
SMART; SM00019; EGF_CA; 2.
SMART; SM00109; EGF_CA; 2.
SMART; SM00109; EGF_CA; 2.
PROSITE; PS00100; ASX_HYDROXYL; 2.
PROSITE; PS01186; EGF_L3; 3.
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SEQUENCE OF 1-136 FROM N.A.
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PROSITE; PS01187; EGF_CA; 2. Calcium-binding; EGF-like domain; Glycoprotein; Hydroxylation; Repeat. SEQUENCE 577 AA; 61844 MW; 0BE764C8BF18555F CRC64;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61 TVRSSVAADVISLLLNGDGGVGRRRLWIGLQLPPGCGDPKRLGPLRGFQWVTGDNNTSYS 120
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
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                                                                                                                                                            9
                                                                                                    .63.2%; Score 1844; DB 11; Length 577; 64.0%; Pred. No. 1.6e-139; ative 49; Mismatches 132; Indels 6;
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01-MAY-1997 (TrEMBLrel. 03, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
Thrombomdulin (Fragment).
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InterPro; IPR000561; EGF-like.
InterPro; IPR001881; EGF-Ca.
InterPro; IPR001491; Thrmbomoduln.
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PRINTS; PR00907; THRMBOMODULN.
SMART; SM00179; EGF_CA; 2.
SMART; SM0001, EGF_LIKe; 3.
                                                                                                    Query Match
Best Local Similarity 64.09
Matches 333; Conservative
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SEQUENCE FROM N.A.
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PROSITE; PS00010; ASX_HYDROXYL; 2.
PROSITE; PS01186; EGF_2; 3.
PROSITE; PS01187; EGF_CA; 2.
Calclum-binding; EGF-11ke domain; Glycoprotein; Hydroxylation; Repeat.
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SEQUENCE 461 AA; 49499 MW; 45971BCE84688E67 CRC64:
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                                                                                                                                                                           NGGCEHACNAIPGAPRCQCPAGAALQADGRSCTASATQSCNDLCEHFCVPNPDQPGSYSC 308
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                                                                                                    Gaps
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Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
NCBI_TaxID=9606;
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EMBL: AJ29846; CAC34381.1; -. ESBL: AJ29846; CAC34381.1; -. HSSP; P07204; 12AO.
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Vogelstein
                                                                                DB 11; Length
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01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
Tumor endothelial marker 1 precursor (Endosialin protein)
TEM1 OR ENDOSIALIN.
Homo sapiens (Human).
                                                                              Ouery Match 48.0%; Score 1400.5; DB 11; Lengt Best Local Similarity 62.7%; Pred. No. 3.9e-104; Matches 245; Conservative 37; Mismatches 104; Indels
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MEDILINE-20407466; PubMed-10947988;
X. Croix B., Rago C., Velculescu V., Traverso G.,
Montgomery E., Lal A., Riggins G.J., Lengauer C.,
Kinzler K.W.;
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Science 289:1197-1202(2000).
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                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mus musculus (Mouse).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
NCBI_TaxID=10090;
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                                                                                                                                                                                                                                                                                                                                                                                                     Indels 115;
                                                                                                                                                                                                                                                                                                                                                        20.0%; Score 584.5; DB 4; Length 757; ilarity 33.6%; Pred. No. 1.4e-38; Conservative 44; Mismatches 191; Indels 115;
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18 757 TUMOR ENDOTHELIAL MARKER
757 AA; 80858 MW; C96363EA1FD8FFAO CRC64;
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Last annotation update)
                                                                                                                                                                       UNKNOWN_1
                                                                                                   SMART; SM00034; CLECT; 1.
SMART; SM01011; EGF; 3.
SMART; SM01019; EGF_CA; 2.
PROSITE; PS00010; ASX_HYDROXYL; UNKNOWN, PROSITE; PS00101; C_TYPE_LECTIN_2; 1.
PROSITE; PS01186; EGF_2; 1.
PROSITE; PS01187; EGF_CA; UNKNOWN_1.
Signal.
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Interpro; IPR000561; EGF-like.
Interpro; IPR001881; EGF_Ca.
Interpro; IPR001304; Lectin_C.
Pfam; PF00008; EGF; 2.
Pfam; PF00059; lectin_C; 1.
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01-DEC-2001 (TrEMBLrel. 19,
01-DEC-2001 (TrEMBLrel. 19,
01-JUN-2002 (TrEMBLrel. 21,
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Matches 177; Conserv
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SEQUENCE FROM N.A.
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Query Match
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61 TVRSSVAADVISLLLNGDGGVGRRR--LWIGLQLPPGCGDPKRLGPLRGFQWVTGDNNTS 118
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      236 AREAP - GAWDCSVENGGCEHAC - NAIPGAPRCQCPAGAALQADGRSCTASATQS - CNDL 291
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE-21486432; PubMed-11489895; Opavsky R., Haviernik P., Jurkovicova D., Garin M.T., Copeland N.G., Gilbert D.J., Jenkins N.A., Bies J., Garfield S., Pastorekova S., Oue A., Wolff L.; "Wolff L." "Molecular Characterization of the Mouse Teml/endosialin Gene Regulated by Cell Density in Vitro and Expressed in Normal Tissues i
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mus musculus (Mouse).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      36;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 765;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match 19.7%; Score 575; DB 11; Length 76 Best Local Similarity 38.3%; Pred. No. 8.4e-38; Matches 144; Conservative 41; Mismatches 155; Indels
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01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
Tumor endothelial marker 1 precursor (Endosialin).
                                                                                                                                                                                                                                                                         EMBL; AF388572; AAK84664.1; EMBL; AF388572; AAK84664.1; MG1; MG1; MG197855; Teml.

MG1; MG1:1917855; Teml.

MG1; MG1:1917855; Teml.

InterPro; IPR0010152; ASx.hydroxyl.

InterPro; IPR0010181; EGF_Ca.

InterPro; IPR001304; Lectin_C.

InterPro; IPR001304; Lectin_C.

Pfam; PF00008; EGF; 2.

Pfam; PF00008; BGF; 2.

Pfam; PF00008; BGF; 2.

Pfam; PF00008; Lectin_C; 1.

PROSITE; PS00101; ASX_HYDROXYL; UNKNOWN_1.

PROSITE; PS01186; EGF_CA; UNKNOWN_1.

PROSITE; PS01186; EGF_CA; UNKNOWN_1.

SEQUENCE 765 AA; 81823 MM; 07B3225E5DD13.
STRAIN-SWISS WEBSTER; TISSUE-THYMUS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRT;
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                                                                                                                                                                                                                                                      Vivo.";
J. Biol.
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MEDLINE=2148643; PubMed=11498995;
Opavsky R., Haviernik P., Jurkovicova D., Garin M.T., Copeland N.G.,
Gilbert D.J., Jenkins N.A., Bies J., Garfield S., Pastorekova S.,
Oue A., Wolff L.;
"Molecular Characterization of the Mouse Teml/endosialin Gene
Regulated by Cell Density in Vitro and Expressed in Normal Tissues in
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              114 FINWAQPATEG-PCPAQRCAALEAS-----GEHRWLEGSCTLAVDGYLCQFGFEGACPAL 167
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Kinzler K.W., St Croix B.;
"Cell surface tumor endothelial markers are conserved in mice and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      19.7%; Score 575; DB 11; Length 765; nlarity 38.3%; Pred. No. 8.4e-38; Conservative 41; Mismatches 155; Indels 38
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        18 765 TUMOR ENDOTHELIAL MARKER 1.
765 AA; 81813 MW; 572A06CC15BC8CD8 CRC64;
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InterPro; IPR000152; Asx_hydroxyl.
InterPro; IPR000152; RGE-like.
InterPro; IPR001304; EGF-Like.
InterPro; IPR001304; Lectin_C.
InterPro; IPR001304; Lectin_C.
InterPro; IPR000436; Sushi_SCR_CCP.
Pfam; PF000089; BGF; 2.
Pfam; PF00084; Sushi; 1.
PROSITE; PS00010; ASX_HYDROXIL; UNKNOWN_I.
PROSITE; PS010186; EGF_CA; UNKNOWN_I.
PROSITE; PS01186; EGF_CA; UNKNOWN_I.
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                                                                                                                                                                                                                                                                                                                                                                                                                             Vivo.";
J. Biol. Chem. 276:38795-38807(2001).
MEDLINE=21443268; PubMed=11559528;
                                                                                                                                         Cancer Res. 61:6649-6655(2001).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EMBL; AF378758; AAL11995.1; -.
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CSTRAIN-SPRAGUE-DAWLEY; TISSUE-BRAIN;
MAKAYAMA M., NAKAJIMA D., NAGASE T., NOMUTA N., SEKI N., Ohara O.;
MAKAYAMA M., NAKAJIMA D., NAGASE T., NOMUTA N., SEKI N., Ohara O.;
MICHITICATION Of high-molecular-weight proteins with multiple EGF-
like motifs by motif-trap screening.";
Genomics 51:27-34(1998).

MEMBI, ABOIIS32; BAA32462.1;
MEMBI, ABOIIS32; BAA32462.1;
MICHEPTO; IPRO00152; ASX_hydroxyl.

INTERPO: IPR000152; ASX_hydroxyl.

INTERPO: IPR0001861; EGF_CA.

REPOSITE; PS00008; EGF_CA.

SWART; SM00109; EGF_Like.

REPOSITE; PS001001 ASX_HYDROXYL; 5.

PROSITE; PS01186; EGF_L; UNKNOWN_23.

PROSITE; PS01187; EGF_CA. 5.

CALCIUM-DAIDIGH; EGF_CA. 5.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         264 ELRGLAHCGCHPGYQLAADRKTCEDVDECALGLAQCAHGCLNTQGSFKCVCHAGYELGAD 323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        461
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  224 CTAPPG-AVQGHWAREAPGAWDCSVENGGCEHACNAIPGAPRCQCPAGAALQADGRSCTA 282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  147 CRCPPGYQLQGD-GKTCQDVDECRAHNGGCQHRCVNTPGSYLCECKPGFRLHTDGRTCL- 204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        283 SATQSC---NDLCEHFCVP-----309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   205 -AISSCTLGNGGCQHQCVQLTVTQHRCQCRPQYQLQEDGRRCVRRSPCAEGNGGCMHICQ 263
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 324 GROCYRIEMEIVNSCEAGNGGCSHGCSH-TSTGPLCTCPRGY-----ELDEDQKTCIDID 377
                                               446 ENGGFCSGVCHNLPGTFECICGPDSALARHIGT-----DCDS------GKVDGGDSG 491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota; Métazoa; Chórdata; Craniata; Vertebrata; Euteleostom1;
Mammalia; Eutheria; Rodentía; Sciurognathi; Muridae; Murinae; Rattus.
NCBI_TaxID=10116;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -----CETGYRLAADQHRCEDVDDCILEPSPCPQRCVNTQGGFECHCYPNYDL-VD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  360 G-EC----VEPVDPCFRAN--CEYQCQPLNQTSYLCVCAEGFAPIPHEPHRCQMFC----
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34.1%; Pred. No. 1.4e-24;
Live 28; Mismatches 101; Indels 72;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Created)
Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRT; 1574 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           088281;
01-NOV-1998 (TrEMBLrel. 08,
01-NOV-1998 (TrEMBLrel. 08,
01-DEC-2001 (TrEMBLrel. 19,
MEGF6.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches 104; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Rattus norvegicus (Rat)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity
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                                                                                                                                                                     492 SGEP 495
                                                                                                                                                                                                                                                        443 SCEP 446
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         206 ILIKKVTSCSTDNGGCEHEC-ENDSNGEFYRCRCRVGFKLSENKRSCQPVDPCFDNKGGC 264
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   265 QHHCTNNHGRAQCQCYPGFHLSYDRRSCVDIDECAKNNGCEHFCENVKGT-YRCKCREGY 323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        170 HFPATCRPLAVEPGAAAAVSITYGTPFAARGADFQALPVGSSAAVAPLGLQLMCTAPPG 229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      D-ANEC--MANNGGCEHECVN-TIGTYY------CRCWPG 145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       YSRWARLDLNGAPLCGPLCVAVSAAE-----ATVPSEPIWEEQQCE--VKADGFLCEF 169
                                                                                                                                                                                                                                                                                                   Rhabditida; Rhabditoidea;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A Alnscough R.:
Submitted (MAY-1999) to the EMBL/GenBank/DDBJ databases.
EMBL; AL117206; CAB60454.1; JOINED.
EMBL; AL110498; CAB60454.1; JOINED.
REMBL; AL110498; CAB57911.1; JOINED.
REMBL; AL110498; CAB57911.1; JOINED.
REMBL; AL110408; CAB57911.1; JOINED.
REMBL; AL110408; CAB57911.1; JOINED.
REMBL; AL110408; CAB57911.1; JOINED.
RICEPTO; IPRO00152; ASX_hydroxyl.
RICEPTO; IPR0001821; EGF_Ca.
RICEPTO; IPR000181; EGF_Ca.
RICEPTO; IPR00011; EGF_CA. 4.
RART; SM00019; EGF_CA. 4.
RART; SM00019; EGF_LAMINN.
RART; SM00010; ASX_HYDROXYL; 4.
ROSITE; PS00106; ASX_HYDROXYL; 4.
ROSITE; PS01186; EGF_2: 24.
REPROSITE; PS01187; EGF_CA: 3.
RART; CABCORD & EGF_CA: 3.
RART; CABCORD & EGF_CA: 3.
ROSITE; PS01187; EGF_CA: 3.
RAGINGUIL EGF_CA: 4.
RAGINGUIL EG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mortimore B.J.;
Submitted (APR-1999) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Genome sequence of the nematode C.elegans: A platform
                                  01-MAY-2000 (TrEMBLrel. 13, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
                                                                                                                                                                                                                                                   Caenorhabditis elegans.
Eukaryota; Metazoa; Nematoda; Chromadorea;
Rhabditidae; Peloderinae; Caenorhabditis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A. MEDLINE-99069613; Pubmed-9851916;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               investigating biology.";
Science 282:2012-2018(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
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                                                                                                                                                                         Y64G10A.7 protein.
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                                                                                                                                                                                                                Y64G10A.7
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PROSITE; PS01187; EGF_CA; 10.
Calcium-binding; EGF_like domain; Glycoprotein; Hydroxylation; Repeat.
                                                                                                                                 262 APRCQCPAGAALQADGRSCTASATQSC---NDLCEHFCVPNPDQPGSYSCMCETGYRLAA 318
                                                                                                                                                                                                                    563 CLCPPGYALGLDNHIVTSLNSSFITDSTSSETPSAHTCLDIDECSLANGNCSHFCQNEPG 622
                                                                                                                                           319 DQHRCEDVDDCILEPSPCPQRCVNTQGGFECHCYPNYDLVDGE--CVEPVDPC---FRAN 373
                                                                                                                                                                                                                                                       Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              374 CEYQCQPLNQT-SYLCVCAEGFAPIPHEPHRCQMFCNQTACPA--DCDPNTQASC----
                                                                                                                                                                                                                                             ·ECPEGYILDDGFICTDIDEC··ENGGFCSGVCHNLPGTFECICGP·····-DSALARHI
                                                                             :99
                                    1394 AA; 152269 MW; CD29380E3162F68A CRC64;
                                                       13.2%; Score 386; DB 5; Length 13
32.1%; Pred. No. 2.2e-22;
Live 33; Mismatches 110; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     76164 MW; C247271C1DF73361 CRC64;
                                                                                                                                                                                                                                                                                                                                                                    01-MAY-1997 (TrEMBLrel. 03, Created)
01-MAY-1997 (TrEMBLrel. 03, Last sequence update)
01-MAY-2002 (TrEMBLrel. 20, Last annotation update)
Elbrillin-1 (Fragment).
                                                                           99; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                  Gallus gallus (Chicken).
                             1394
                                                                  Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                  477 GTDCDSGK 484
                                                                                                                                                                                                                                                                                                  845 - DECDQDK 851
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                                       SEQUENCE
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SEQUENCE
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RAY AND C. OLD K., Tian Y., Kumar A., Wada J., Kashihara N., Wallner E.,

RA Yang C., Ota K., Tian Y., Kumar A., Wada J., Kashihara N., Wallner E.,

RA Wang Y.S.;

RANWAR Y.S.;

RAY COLOING of rat fibrillin-2 cDNA and its role in branching

RT "Cloning of rat fibrillin-2 cDNA and its role in branching

RT "Cloning of rat fibrillin-2 cDNA and its role in branching

RT "A MAD CONTROL OF THE COLOING COLOI
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E
                                                                                                                                                                                                                                                                                                              244 DCSVENGGCEHACNAIPGAPRCQCPAGAALQADGRSCIASATQSCNDLCEHFCVPNP--- 300
                                                                                             301 -----DQPGSYSCMCETGYRLAADQHRCEDVDDCILEPSPC-PQRCVNTQGGFECHCYP 353
                                                                                                                                                                273 DGGQCINIPGEYRCLCYDGFMASEDMKTCVDVNECDLHPNICLSGTCENTKGSFICHCDM 332
                                                                                                                                                                                                                   354 NYDLVDGE--CVEPVDPC--FRANCEYQCQPLN-QTSYLCVCAEGFA------PIP 398
                                                                                                                                                                                                                                                                                          399 HEPHRCOMFCNOTACPADCDPNTQAS -- CECPEGYILDDGFICTDIDE -----CENG 448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                     Indels 106;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                12.9%; Score 375; DB 11; Length 2906; 32.9%; Pred. No. 3.8e-21; tive 24; Mismatches 92; Indels 92
                                                                                                                                                                                                                                                                                                                                                                                                                                                              474 RHIG------TDCDSGK-VDGGDSGSGEPPPSPTPGSTLTPPAVGLV 513
 Length 708;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Last sequence update)
Last annotation update)
12.9%; Score 376; DB 13;
31.8%; Pred. No. 6.6e-22;
ative 26; Mismatches 108;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRT; 2906 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Created)
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                  Best Local Similarity 31.83
Matches 112; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRELIMINARY;
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Query Match
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Q9WUH9
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18;

Gaps

92;

Best Local Similarity 32.9% Matches 102; Conservative

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                                                                                                                                                                                                               370 FRAN--CEYQCOPINQTSY--LCVCAEGFAPIPHEPHRCOMFC-----NOTACPADCD 418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -----PNPDQPGS-----YSCMCETGYR 315
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -----QPGSYSCMCETGYRLAADQHRCEDVDDCILEPSPCP-QRCVNTQGGFECHCYP 353
                                                                                                                                                                                   354 NYDLVDGE--CVEPVDPC--FRANCEYQCQPLN-QTSYLCVCAEGFA-----PIP 398
                                                                                                                                                                                                                                                                                                                                                                   -----GVCHNLPGTFECICGPDSALA 473
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DCSVENGGCEHACNAIPGAPRCQCPAGAALQADGRSCTASATQSCNDLCEHFCVPNPD-- 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE-98360089; PubMed-9693030;
Nakayama M., Nakajima D., Nagase T., Nomura N., Seki N., Ohara O.;
"Identification of high-molecular-weight proteins with multiple EGF-like motifis by motif trap screening.";
Genomics 51:27-34(1988).
EMBL; AB011539; BAA32467.2; -.
SEQUENCE 1246 AA, 130304 MW; BD8E70A0F6A2CB29 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                           HEPHRCQMFCNQTACPADCDPNTQAS -- CECPEGYILDDGFICTDIDE-----CENG-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          72;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Last sequence update)
Last annotation update)
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1517 RTGGHCTDID 1526
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                                                                                                                                                                                                                                                                                                                                                                                                                                                              474 RHIG--TDCD 481
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SEQUENCE FROM N.A.
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us-09-509-994-2.rspt

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2428 KACEDIDECSLPNICVFGTCHNLPGLFRCECEIGYELDRSGGNCTDVNECLDPTTCISGN 2487
                                                                                                                PRT;
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Matches 107; Conservative
                                                                                                                PRELIMINARY;
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                                                                                                                                                                                                                                          NCBI_TaxID=9606;
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01-DEC-2001 (
01-JUN-2002 (
                                                                                                                                                                            Fibrillin3.
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O9WUH8
                                                                                       RESULT 14
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R MGD; MGI:95489; Fbb1.

R InterPro; IPR000152; Asx_hydroxyl.

R InterPro; IPR00152; Chilin_bind_PerA.

R InterPro; IPR001881; EGF_Ca.

R Ffam; PF000083; TB; 12.

R SWART; SW00019; EGF_Ca, 60.

SWART; SW00019; EGF_Like; 4.

R RABRT; SW00101; EGF_Like; 4.

R ROSITE; PS001186; EGF_J; 50.

R ROSITE; PS001187; EGF_Like domain; Glycoprotein; Hydroxylation; Repeat.

R SEQUENCE 3857 AA, 418301 MW; 5BC0618BC527E04C CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2317 HNCDRHAVCTNTAGSFKCSCSPGWIGDGIKCTDLDECSSGTHMCSQH-----ADC-KN 2368
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2148 SANICPHGRCVNLIGKYQCACNPGYHPTHDRLECVDIDECSIMNGGCETFCTNSDGSYEC 2207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          372 ANCEYOCQPLNQT-SYLCVCAEGFA-----PIPHEPHRCQMFCNQTACPADCDPN 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ------CS------GVCHNLPGIFECICGPDSALARHIG------TDCDSGK 484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      266 QCPAGAALQADGRSCTASATQSCNDLCEHFCVPNP------DQPGSYSCMCETGYRL 316
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       317 AADQHRCEDVDDCILEPSPC-PQRCVNTQGGFECHCYPNYDLVDGE--CVEPVDPC--FR 371
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SAAVAPLGL-----QLMCTAPPGAVQGHWAREAPGAWDCSVENGGCEHACNAIPGAPRC 265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                        MEDLINE-98069008; PubMed-9405934;
Bona C.A., Mural C., Casares S., Kasturi K., Nishimura H., Honjo T.,
Matsuda F.,
"Structure of the mutant fibrillin-1 gene in the tight skin (TSK)
                                                                                                                                                    Mus musculus (Mouse).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
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12.6%; Score 367; DB 11; Length 3857;
Best Local Similarity 30.3%; Pred. No. 2.2e-20;
Matches 118; Conservative 28; Mismatches 132; Indels 112;
300 NNPGGYECGCYAGYRLSADGCGCEDVDECASSRGGCEHHCTNLAGSFQCSC 350
                                                                                                    Last sequence update)
Last annotation update)
                                                               3857 AA
                                                                                        Created)
                                                                                                                                                                                                                                                                                                     DNA Res. 4:267-271(1997).
EMBL; AF007248; AAC62317.1; -.
HSSP; P35555; 1APJ.
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08,
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                                                              PRELIMINARY;
                                                                                      01-NOV-1998 (TrEMBLrel.
01-NOV-1998 (TrEMBLrel.
01-JUN-2002 (TrEMBLrel.
                                                                                                   01-NOV-1998 (TrEMBLrel. 01-JUN-2002 (TrEMBLrel. Mutant fibrillin-1.
                                                                                                                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                       NCBI_TaxID=10090;
                                                              088840
088840;
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WEDLINE=21245130; PubMed=11347906;

WEDLINE=21245130; PubMed=11347906;

WEDLINE=21245130; PubMed=11347906;

WEDLINE=21245130; PubMed=11347906;

WEDLINE=21245130; PubMed=11347906;

WEDLINE=21245130; PubMed=11347906;

The complete sequences of 100 new cDNA clones from brain which code of 100 leaves of 100 new cDNA clones from brain which code of 100 leaves of 100 new cDNA clones from brain which code of 100 leaves of 100 new cDNA clones from brain which code of 100 leaves of 100 new cDNA clones from brain which code of 100 leaves of 100 leaves of 100 new cDNA clones from brain which code of 100 leaves of 1
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1268 GYMVRKGATGCSD-VDECEVGGHNCDSHASCLNIPGSFSCRCLPGWVGDGFECHDLDECI 1326
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Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi;
Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (TrEMBLrel. 19, Created)
(TrEMBLrel. 19, Last sequence update)
(TrEMBLrel. 21, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                  2809 AA
                                                                485 -VDGGDSGSGEPPPSPTPGSTLTPPAVGLV 513
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20;
                                                                                                      |-----DIDE--CEDNPNICDGGQCTNIPGEYRCLCYDGFMASEDMKTCVDVNECDLNPN 1290
                                                                                                                                                                                                                                                                                                                                        SMART; SMO0019; EGF_CA; 41.

SMART; SMO0019; EGF_Like; 5.

SMART; SMO0001; EGF_Like; 5.

PROSITE; PS00002; EGF_1 UKNOWN_2.

PROSITE; PS01186; EGF_2; 38.

PROSITE; PS01187; EGF_CA; 41.

PROSITE; PS00028; ZINC_FINGER_C2H2_1; UNKNOWN_1.

Calcium-binding; EGF-1ike domain; Glycoprotein; Hydroxylation; Repeat.

SEQUENCE 2872 AA; 312069 MM; OC4F7F3B87A80280 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             389 VCAEGFA-----PIPHEPHRCQMFCNQTACPADCDPNTQAS--CECPEGYILDDG 436
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             224 CTAPPGAVQGHWAREAPGAWDCSVENGGCEHACNAIPGAPRCQCPAGAALQADGRSCTAS 283
                                                       Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
NCBI_TaxID-10116;
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
12.4%; Score 361; DB 11; Length 2872;
Best Local Similarity 30.6%; Pred. No. 4.9e-20;
Matches 114; Conservative 25; Mismatches 127; Indels 106;
Q9WUH8 PRELIMINARY; PRT; 2872 AA. 09WUH8; OLNOV-1999 (TrEMBLrel. 12, Created) 01-NOV-1999 (TrEMBLrel. 12, Last sequence update) 01-NOV-1999 (TrEMBLrel. 20, Last annotation update)
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Search completed: December 16, 2002, 17:26:17 Job time : 40.5 secs

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Sequence 5, Appli Sequence 1, Appli Sequence 2, Appli Sequence 39, Appli Sequence 3, Appli Sequence 1, Appli Sequence 1, Appli Sequence 4, Appli Sequence 4, Appli Sequence 2, Appli Sequence 18, Appli

Sequence 1, Sequence 1,

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Length 575;
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Patent No. 5639625

GENERAL INFORMATION:
GENERAL INFORMATION:
TYPE OF INVENTION: Method for Detecting Antibodies to TITLE OF INVENTION: Thrombomodulin in Patients
WUMBER OF SEQUENCES: 11

CORRESPONDENCE ADDRESS:
ADDRESSEE: Richards, Medlock & Andrews
STREET: 1201 Elm Street, Suite 4500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
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COMPUTER READALE FORM:
MEDULU TYPE: Floppy disk
COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTIN Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/312,870
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match 100.0%; Score 2916; DB 1; Best Local Similarity 100.0%; Pred. No. 8.3e-199; Matches 516; Conservative 0; Mismatches 0;
US-08-312-870-7

US-08-312-870-5

US-08-312-870-9

US-08-731-305-2

US-08-711-305-2

US-09-741-31

US-08-87-443-1

US-08-87-443-1

US-08-87-443-1

US-08-87-443-1

US-08-87-443-1

US-08-97-443-1

US-08-97-443-1

US-08-97-443-1

US-08-97-443-1

US-08-97-413-1

US-08-97-413-1

US-08-97-413-1

US-08-97-413-1

US-08-97-22B-2

PCT-US95-02251-18
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US-08-884-072-1
US-09-212-168-1
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CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Hansen, Eugenia S.
REGISTRATION NUMBER: 31,966
REFERENCE/DOCKET NUMBER: OMRF B35150
TELECOMMUNICATION INFORMATION:
TELEPHONE: 214-939-4500
TELEFAX: 214-939-4500
INFORMATION FOR SEQ ID NO: 1:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE CHARACTERISTICS:
LENGTH: 575 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
FRAGMENT TYPE: N·terminal
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STATE: Texas
COUNTRY: US
71P: 75270-2197
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/cgn2_6/ptodata/1/iaa/5B_COMB.pep:*
/cgn2_6/ptodata/1/iaa/6A_COMB.pep:*
/cgn2_6/ptodata/1/iaa/6B_COMB.pep:*
/cgn2_6/ptodata/1/iaa/pcTUS_COMB.pep:*
/cgn2_6/ptodata/1/iaa/pcTUS_COMB.pep:*
                    GenCore version 5.1.3
Copyright (c) 1993 - 2002 Compugen Ltd
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US-08-170-290A-54
US-08-170-290A-54
US-08-33-564-2
US-08-312-870-3
US-08-101-723-14
US-08-101-011A-14
US-08-101-011A-16
US-08-307-444A-1
US-08-307-444A-1
US-08-101-723-1
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Maximum Match 100%
Listing first 45 summaries
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Gapop 10.0 , Gapext 0.5
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2916
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Match Length DB
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                                                   TVRSSVAADVISLLLNGDGGVGRRRLWIGLQLPPGCGDPKRLGPLRGFQWVTGDNNTSYS 120
                                                               61 IVRSSVAADVISLLINGGGGGGRRRIMIGLQLPPGCGDPKRLGPLRGFQWVTGDNNTSYS 120
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EPGAAAAVSITYGTPFAARGADFQALPVGSSAAVAPLGLQLMCTAPPGAVQGHWAREAP
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: GLASER, CHARLES B.; MORSER, MICHAEL J.; LIGHT,
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100.0%; Pred. No. 8.3e-199;
tive 0; Mismatches 0;
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NUMBER OF SEQUENCES: 57

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/155,346

FILING DATE: 22-NOV-1993

PHOR APPLICATION DATA:

APPLICATION NUMBER: 568,456

FILING DATE: 15-AUG-1990

APPLICATION NUMBER: 566,325

FILING DATE: 13-SEP-1980

APPLICATION NUMBER: 366,941

FILING DATE: 13-SEP-1989

FILING DATE: 13-SEP-1989
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Best Local Similarity 100.
Matches 516; Conservative
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5466668-6
;Patent No. 5466668
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                                                                                                                  241 GAWDCSVENGGCEHACNAIPGAPRCQCPAGAALQADGRSCIASAIQSCNDLCEHFCVPNP
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                                                                                            EPGAAAAAVSITYGTPFAARGADFQALPVGSSAAVAPLGLQLMCTAPPGAVQGHWAREAP
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APPLICANT: Zushi, Komakazu
APPLICANT: Gomi, Komakazu
APPLICANT: Yamamoto, Shuji
APPLICANT: Suzuki, Koji
APPLICANT: Suzuki, Koji
TITLE OF INVENTION: A Polypeptide Capable of Interacting
TITLE OF INVENTION: With Thrombin
NUMBER OF SEQUENCES: 80
CORRESPONDENCE ADDRESS:
ADDRESSEE Birch, Stewart, Kolasch & Birch
STREET: 301 N. Washington St.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
GURRANT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          481 DSGKVDGGDSGSGEPPPSPTPGSTLTPPAVGLVHSG 516
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PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/740,492
FILING DATE: 03-40G-1991
ATTORNEY/AGENT INFORMATION:
NAME: Svensson, Leonard R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         216-275P
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Patent No. 5574007
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COMPATING SYSTEM: PC-DOCATE
SOFTWARE: DA*****
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NAME: Svensson, Leonard R. REGISTRATION NUMBER: 30330
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TELECOMMUNICATION INFORMATION TELEPHONE: 703-241-1300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ZIP: 22046-0747
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
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STATE: Virginia
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575 amino acids

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                                                                                                                                                     Indels
                                                                                                                                 Length
                                                                                       /label= protein
/note= "human thrombomodulin"
                                                                                                                               Score 2912; DB 1;
Pred. No. 1.6e-198;
0; Mismatches 1;
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                                                                                                                                 99.9%;
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
FRAGMENT TYPE: internal
ORIGINAL SOURCE:
ORIGINAL SOURCE:
                                                                                                                                           Best Local Similarity 99.8 Matches 515; Conservative
                                                                               CCATION: 1..575
CTHER INFORMATION:
CTHER INFORMATION:
US-08-261-206A-59
                                                                     NAME/KEY: Protein
                                                                                                                                    Query Match
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421 361 121 481 301 481 셤 g ò 임 ò ò ò APPLICANT: Andrews, William H.
APPLICANT: Morser, Michael J.
APPLICANT: Zielander, Laura R.
TITLE OF INVENTION: No. 5702931el Mutagenesis Methods and TITLE OF INVENTION: Compositions
NUMBER OF SEQUENCES: 63
CORRESPONDENCE ADDRESS: US-08-170-290A-54
; Sequence 54, Application US/08170290A
; Patent No. 5702931
; GENERAL INFORMATION: ADDRESSEE: James M. Heslin STREET: 379 Lytton Ave. CITY: Palo Alto STATE: California COUNTRY: USA ZIP: 94301

ZIP: 94301 COMPUTER READABLE FORM

241 GAWDCSVENGGCEHACNAIPGAPRCQCPAGAALQADGRSCTASATQSCNDLCEHFCVPNP 300 DQPGSYSCMCETGYRLAADQHRCEDVDDCILEPSPCPQRCVNTQGGFECHCYPNYDLVDG 360 TQASCECPEGYILDDGFICTDIDECENGGFCSGVCHNLPGTFECICGPDSALARHIGTDC 480 RWARLDINGAPLCGPLCVAVSAAEATVPSEPIWEEQQCEVKADGFLCEFHFPATCRPLAV 180 1 MLGVLVLGALALAGLGFPAPAEPQPGGSQCVEHDCFALYPGPATFLNASQICDGLRGHLM 60 **EPGAAAAAVSITYGTPFAARGADFQALPVGSSAAVAPLGLQLMCTAPPGAVQGHWAREAP ECVEPVDPCFRANCEYQCQPLNQTSYLCVCAEGFAPIPHEPHRCQMFCNQTACPADCDPN** ö Length 575; SYSTEM: PC-DOS/MS-DOS PatentIn Release #1.0, Version #1.25 Score 2908; DB 1; Pred. No. 3.1e-198; 0; Mismatches 1; DSGKVDGGDSGSGEPPPSPTPGSTLTPPAVGLVHSG 516 DSGKVDGGDSGSGEPPPSPTPGSTLTPPAVGLVHSG 516 MEDIUM TYPE: Floppy disk
COMPUTER: IMP PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTIN Release #1.0, Vers
CURRENT APPLICATION DATA:
RPPLICATION NUMBER: US/08/170,290A
FILING DATE: 28-DEC-1993
CLASSIFICATION: 435 PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/US92/05573
FILING DATE: 01-JUL-1992
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/724,237
FILING DATE: 01-JUL-1991
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION: 11972-58-1 NAME: Heslin, James M.
REGISTRATION NUMBER: 29,541
REFERENCE/DOCKET NUMBER: 1197
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415-326-2400
TELEFAX: 415-326-2422 INFORMATION FOR SEQ ID NO: 54: SEQUENCE CHARACTERISTICS: LENGTH: 575 amino acids TYPE: amino acid 99.78; Query Match Best Local Similarity 99.8 Matches 515; Conservative TOPOLOGY: linear MOLECULE TYPE: protein US-08-170-290A-54 181 181 241 17 셤

PC-DOS/MS-DOS

OPERATING SYSTEM:

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                                                                                                                                                                                                                                                                                                                                                                                                  61 TVRSSVAADVISLILINGDGGVG-RRIMIGLQLPPGCGDPKRLGPLRGFQWVTGDNNTSYS 119
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                                                                     TITLE OF INVENTION: OXIDATION RESISTANT THROMBOMODULIN ANALOGS
                                                                                                                                                                                                                                    6; Length 572;
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Fatent No. 5916874
GENERAL INFORMATION:
APPLICANT: MOCHIDA, Satoshi
TITLE OF INVENTION: METHOD FOR TREATING LIVER INJURY
NUMBER OO SEQUENCES:
CORRESPONDENCE ADDRESS:
ADDRESSEE: Birch, Stewart, Kolasch & Birch, LLP
STREET: P.O. Box 747
CITY: Falls Church
STREET: Viglaia
COUNTRY: USA
ZIP: 22040-0747
COMMUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                 APPLICANT: GLASER, CHARLES B.; MORSER, MICHAEL J.; LIGHT
                                                                                                                                                                                                                                 Query Match 97.6%; Score 2846.5; DB 6
Best Local Similarity 98.6%; Pred. No. 6.8e-194;
Matches 509; Conservative 0; Mismatches 4;
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CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/506,325
FILING DATE: 09-APR-1990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ZIP: 22040-0747
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC COMPATIBLE
                  ; Patent No. 5256770
                                                                                                                                                                              LENGIH: 572
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                                                                                                                                                             SEQ ID NO:7
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                                                                                                                                                                                                                                                                                            Length 498
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Patent No. 5639625
GENERAL INFORMATION:
APPLICANT: Carson, Craig W.
APPLICANT: Esmon, Charles T.
TITLE OF INVENTION: Method for Detecting Antibodies to TITLE OF INVENTION: Thrombomodulin in Patients
NUMBER OF SEQUENCES: 11
                                                                                                                                                                                                                                                                                         96.9%; Score 2826; DB 2; 99.8%; Pred. No. 1.7e-192; ive 0; Mismatches 1;
PTPGSTLTPPAVGLVHSG 516
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                                                                                                                                                  TELEX: 248345
INFORMATION FOR SEQ ID NO: 2
SEQUENCE CHARACTERISTICS:
LENGTH: 498 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                       Best Local Similarity 99.8
Matches 497; Conservative
                                                                                                                                                                                                                        STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: Protein
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US-08-733-564-2
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                                                                                                                                                                                                                                                                                                                                                           Length 497;
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                                                      COUNTRY: US

ZIP: 7520-2197
COMPUTER EADABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/312,870
FILING DATE:
CLASSIFICATION: 435
ATTONNEY/AGENT INFORMATION:
NAME: Hensen, Eugenia S.
REGISTRATION NUMBER: 31,966
REFERENCE/DOCKET NUMBER: 31,966
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION SEQ ID NO: 3:
TELERAX: 214-939-4500
INFORMATION FOR INFORMATION:
TELERAX: 214-939-4600
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHRAACTERISTICS:
LENGTH: 497 amino acids
                                                                                                                                                                                                                                                                                                                                                          Query Match 96.8%; Score 2824; DB 1; I Best Local Similarity 100.0%; Pred. No. 2.3e-192; Matches 497; Conservative 0; Mismatches 0;
        ADDRESSEE: Richards, Medlock & STREET: 1201 Elm Street, Suite CITY: Dallas STATE: Texas COUNTRY: US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PTPGSTLTPPAVGLVHS 515
                                                                                                                                                                                                                                                                                                             ; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-312-870-3
CORRESPONDENCE ADDRESS:
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241 GAWDCSVENGGCEHACNAIPGAPRCQCPAGAALQADGRSCTASATQSCNDLCEHFCVPNP 300
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                                                                          APPLICANT: Doi, Takeshi
APPLICANT: Iwasaki, Akio
APPLICANT: Saino, Yushi
APPLICANT: Kimura, Shiqeru
APPLICANT: Kimura, Shiqeru
APPLICANT: Fintenbin-Binding Substance and Process
TITLE OF INVENTION: For Preparing the Same
CORRESPONDENCE: 18
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                     ADDRESSEE: OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, ADDRESSEE: P.C. STREET: 1755 Jefferson Davis Highway, Fourth Floor CITY: Arlington STATE: Virginia ZIP: 22202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTIN Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/O8/014,723
FILING DATE: 19930208
CLASSIFTCATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Oblon, NO. 5273962man F.
REGISTRATION NUMBER: 24,618
REFERENCE/DOCKET NUMBER: 80-071-0 CIP
TELEPHONE: (703,413-3200
TELEFAX: (703,413-3200
TELEX: 248855 OPAT UR
SEQUENCE CHARACTERISTICS:
SEQUENCE CHARACTERISTICS:
LENGTH: ANTNO ACTD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            94.9%; Score 2766; DB 1; 99.2%; Pred. No. 2.9e-188;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0; Mismatches
Sequence 14, Application US/08014723 Patent No. 5273962 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity 99.2
Matches 490; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ; MOLECULE TYPE: protein US-08-014-723-14
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RWARLDLNGAPLCGPLCVAVSAAEATVPSEPIWEEQQCEVKADGFLCEFHFPATCRPLAV 180
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                                                                                                                                                                                                                                                                                                      APPLICANT: Doi, Takeshi
APPLICANT: Iwasaki, Akio
APPLICANT: Saino, Tushi
APPLICANT: Kimura, Shigeru
APPLICANT: Masao
TITLE OF INVENTION: Thrombin-Binding Substance and Process
TITLE OF INVENTION: For Preparing the Same
CORRESPONDENCE: 18
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 494;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ADDRESSEE: OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, ADDRESSEE: P.C. STREET: 1755 Jefferson Davis Highway, Fourth Floor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
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Pred. No. 2.9e-188;
0; Mismatches 4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATTORNEY/AGENT INPORMATION:
NAME: Oblon, No. 5354664man F.
REGISTRATION NUMBER: 24,618
REFERENCE/DOCKET NUMBER: 80-073-0 DIV
TELECOMMUNICATION INFORMATION:
TELEPHONE: (703)413-3000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/110,011A
FILING DATE: 23-AUG-1993
CLASSIFICATION: 435
                                                                                                                                                                                                                                                   Sequence 14, Application US/08110011A Patent No. 5354664
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TELEFAX: (703)413-2220
TELEX: 248855 OPAT UR
INFORMATION FOR SEQ ID NO: 14:
SEQUENCE CHARACTERISTICS:
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99.28;
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DSGKVDEDYSGSGE 494
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MOLECULE TYPE: protein
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CITY: Arlington
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Virginia
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ZIP: 22202
                                                                                                                                                                                                                                   US-08-110-011A-14
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361 ECVEPVDPCFRANCEYQCQPLNQTSYLCVCAEGFAPIPHEPHRCQMFCNQTACPADCDPN 420
                                                                                                                                                                                                                                       TQASCECPEGYILDDGFICTDIDECENGGFCSGVCHNLPGTFECICGPDSALARHIGTDC 480
181 EPGAAAAAVSITYGTPFAARGADFQALPVGSSAAVAPLGLQLMCTAPPGAVQGHWAREAP 240
                                                                                                                                                     360
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                                                                    241 GAWDCSVENGGCEHACNAIPGAPRCQCPAGAALQADGRSCTASATQSCNDLCEHFCVPNP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Doi, Takeshi
APPLICANT: Iwasaki, Akio
APPLICANT: Saino, Tushi
APPLICANT: Kimura, Shigeru
APPLICANT: Chuchi, Masao
TITLE OF INVENTION: Thrombin-Binding Substance and Process
TITLE OF INVENTION: For Preparing the Same
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 494;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ADDRESSEE: OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, ADDRESSEE: P.C.
STREET: 1755 Jefferson Davis Highway, Fourth Floor CITY: Arlington
STATE: Virginia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SOFTWARE: Patentin Release #1.0, Version #1.25 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 2764; DB 1;
Pred. No. 4e-188;
1; Mismatches 4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REGISTRATION NUMBER: 24,618
REFERENCE/DOCKET NUMBER: 80-071-0 CIP
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICATION NUMBER: US/08/014,723
FILING DATE: 19930208
                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 10
US-08-014-723-16
; Sequence 16, Application US/08014723
; Detent No. 5273962
; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FILING DATE: 19930208
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Oblon, NO. 5273962man F.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STATE: Virginia
ZIP: 22202
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC COMPATIBLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TELEPHONE: (703)413-3000
TELEFAX: (703)413-220
TELEX: 248855 OPAT UR
INFORMATION FOR SEQ ID NO: 16:
SEQUENCE CHARACTERISTICS:
LENGTH: 494 amino acids
TYPE: AMINO ACID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           94.8%;
99.0%;
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Best Local Similarity 99.0
Matches 489; Conservative
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MOLECULE TYPE: protein
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CORRESPONDENCE ADDRESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       OPERATING SYSTEM:
SOFTWARE: Patenti
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APPLICANT: INAGRAILOR AREA AREA APPLICANT: INAGRAIL TARGENIA APPLICANT: INAGRAIL AREA AREA APPLICANT: SAINO, YUSHI APPLICANT: SAINO, YUSHI APPLICANT: SAINO, YUSHI APPLICANT: Ohkuchi, Masao TITLE OF INVENTION: Thrombin-Binding Substance and Procestrike OF INVENTION: Thrombin-Binding Substance and Procestrike OF INVENTION: Thrombin-Binding Substance and Procestrike OF INVENTION: Thrombin-Binding CORRESSER DEC.

ADDRESSEE: P.C.
STREET: 1755 Jefferson Davis Highway, Fourth Floor CITY: Arlington STREET: Jobby disk
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTION NUMBER: US/OB/110,011A
FILING DATE: 23-AUG-1993
CLASSIFICATION NUMBER: US/OB/110,011A
FILING DATE: 23-AUG-1993 US-08-110-011A-16 ; Sequence 16, Application US/08110011A ; Patent No. 5354664 ; GENERAL INFORMATION:

||||||| DSGKVDDEASGSGD 494

481

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MAIER & NEUSTADT,

ATTORNEY AGENT INFORMATION:
NAME: Oblon, No. 5354664man F.
REGISTRATION NUMBER: 24,618
REFERENCE/DOCKET NUMBER: 80-073-0 DIV
TELECOMMUNICATION INFORMATION:
TELEPHONE: (703)413-3000

361 ECVEPVDPCFRANCEYQCQPLNQTSYLCVCAEGFAPIPHEPHRCQMFCNQTACPADCDPN 420 241 GAWDCSVENGGCEHACNAIPGAPRCQCPAGAALQADGRSCTASATQSCNDLCEHFCVPNP 300 ECVEPVDPCFRANCEYQCQPLNQTSYLCVCAEGFAPIPHEPHRCQMFCNQTACPADCDPN 420 Gaps GAWDCSVENGGCEHACNAIPGAPRCQCPAGAALQADGRSCTASATQSCNDLCEHFCVPNP ó Length 494; Indels Score 2764; DB 1; Pred. No. 4e-188; 1; Mismatches 4 TELEFAX: (703)413-2220
TELEX: 248855 OPAT UR
INFORMATION FOR SEQ ID NO: 16
SEQUENCE CHARACTERISTICS:
LENGTH: 494 amino acids
TYPE: amino acid 94.8%; ilarity 99.0%; Conservative ; MOLECULE TYPE: protein US-08-110-011A-16 DSGKVDGGDSGSGE 494 Query Match Best Local Similarity Matches 489; Conserv TOPOLOGY: 481 361 241 ò qq ŏ g ò

US-08-307-444A-2
Sequence 2, Application US/08307444A
Sequence 2, Application US/08307444A
Sequence 2, Application US/08307444A
Sequence 2, Application US/0830744A
Sequence 3, Application:
APPLICANT: NII, ATSUSHI
APPLICANT: WORISHITA, HIDEAKI
APPLICANT: WORISHITA, AKIO
APPLICANT: MOCHIDA, EI
ITILE OF INVENTION: ANTICOAGULANT POLYPEPTIDES
SUNDBER OF SEQUENCES: 27
CORRESPONDENCE ADDRESS: COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS ADDRESSEE: OLIFF & BERRIDGE STREET: P.O. BOX 19928 CITY: ALEXANDRIA 22320 STATE: VACCOUNTRY:

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PRODUCTION THEREOF, AND THERAPEUTIC AGENT (AS AMENDED)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 MLGVLVLGALALAGLGFPAPAEPQPGGSQCVEHDCFALYPGPATFLNASQLCDGLRGHLM
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             181 EPGAAAAAVSITYGTPFAARGADFQALPVGSSAAVAPLGLQLMCTAPPGAVQGHWAREAP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          181 EPGAAAAAVSITYGTPFAARGADFQALPVGSSAAVAPLGLQLMCTAPPGAVQGHWAREAP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DOPGSYSCMCETGYRLAADQHRCEDVDDCILEPSPCPQRCVNTQGGFECHCYPNYDLVDG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ECVEPVDPCFRANCEYQCQPINQTSYLCVCAEGFAPIPHEPHRCQMFCNQTACPADCDPN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 475
           TRUNCATED THROMBOMODULIN, RECOMBINANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0; Indels
                                                                                                                                                                                                                                  COMPUTER READABLE FURM:
MEDIUM TYPE: Floppy disk
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC Compatible
COMPUTER: IBM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOCTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US 08/307,444
FILING DATE: 17-JAN-1996
CLASSIPICATION NUMBER: US 08/307,444
FILING DATE: 19-SEP-1994
ATTORNEY FASEN INFORMATION:
NAME: OLIFF, JAMES A.
RECISTRATION NUMBER: JAO 27706
TELEPHONE: (703) 836-6400
TELEPHONE: (703) 836-6400
TELEPHONE: (703) 836-6400
TELEPHONE: (703) 836-6400
TELEPKX: (703) 836-6400
TELEPKX: (703) 836-6400
TELEPKX: (703) 836-6400
TELERX: SOU-1799 PTO ALEX
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 475 amino acid
STRANDEDNESS: Single
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match 92.2%; Score 2690; DB 1; I
Best Local Similarity 100.0%; Pred. No. 6.5e-183;
Matches 475; Conservative 0; Mismatches 0;
                                                                                                ADDRESSEE: OLIFF & BERRIDGE
STREET: P.O. BOX 19928
CITY: ALEXANDRIA
STATE: VA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MOLECULE TYPE: protein HYPOTHETICAL: NO
       TITLE OF INVENTION: TR
TITLE OF INVENTION: PR
NUMBER OF SEQUENCES: 2
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ; ANTI-SENSE: NO
US-08-587-389-2
                                                                                                                                                                                                             22320
                                                                                                                                                                                        COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181 EPGAAAAAVSITYGTPFAARGADFQALPVGSSAAVAPLGLQLMCTAPPGAVQGHWAREAP 240
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 361 ECVEPVDPCFRANCEYQCQPLNQTSYLCVCAEGFAPIPHEPHRCQMFCNQTACPADCDPN 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61 TVRSSVAADVISLILNGDGGVGRRRIMIGLQLPPGCGDPKRLGPLRGPQWVTGDNNTSYS 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121 RWARLDINGAPLCGPLCVAVSAAEATVPSEPIWEEQQCEVKADGFLCEFHFPATCRPLAV 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GAWDCSVENGGCEHACNAIPGAPRCQCPAGAALQADGRSCTASATQSCNDLCEHFCVPNP 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61 TVRSSVAADVISLLLNGDGGVGRRRLWIGLQLPPGCGDPKRLGPLRGFQWVTGDNNTSYS 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 MLGVLVLGALALAGLGFPAPAEPQPGGSQCVEHDCFALYPGPATFLNASQICDGLRGHLM 60
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          92.2%; Score 2690; DB 1; Length 475; 100.0%; Pred. No. 6.5e-183;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0; Indels
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/307,444A
FILIG DATE: 19-SEP-1994
CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0; Mismatches
                                                                                                       CLASS.FLCATLON 9435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/835,436
FILING DATE: 26-FEB-1992
ATTORNEYAGENT INFORMATION:
NAME: OLIFF, JAMES A.
REGISTRATION NUMBER: 27,075
RECENENCE/ODCKET NUMBER: JAO 27706
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELEFAX: (703) 836-2787
INFORMATION FOR SED ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 475 minno acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 2, Application US/08587389; Patent No. 5895964 GENERAL INFORMATION: APPLICANT: NII, ATSUSHI APPLICANT: MORENITA, HIDEAKI APPLICANT: UBENERA, AND APPLICANT: MOCHIDA, EI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Best Local Similarity 100. Matches 475; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                            STRANDENNESS: single
TOPOLOGY: linear
MOLECULE TYPE: protein
HYPOTHETICAL: NO
                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ; ANTI-SENSE: NO
US-08-307-444A-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 13
US-08-587-389-2
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APPLICANT: NII, ATSUSHI
APPLICANT: MORISHITA, HIDEAKI
APPLICANT: MORISHITA, HIDEAKI
APPLICANT: MORHUDA, EI
APPLICANT: MORHUDA, EI
TITLE OF INVENTION: TRUNCATED THROMBOMODULIN, RECOMBINANT
TITLE OF INVENTION: PRODUCTION THEREOF, AND THERAPEUTIC AGENT (AS AMENDED)
NUMBER OF SEQUENCES: 27
CORRESPONDENCE ADDRESS:
ADDRESSES: OLIFF & BERRIDGE
STREET: P.O. BOX 19928
CITY: ALEXANDRIA ö Gaps DQPGSYSCMCETGYRLAADQHRCEDVDDCILEPSPCPQRCVNTQGGFECHCYPNYDLVDG 360 241 GAWDCSVENGGCEHACNAIPCAPRCQCPAGAALQADGRSCTASATQSCNDLCEHFCVPNP 300 241 GAWDCSVENGGCEHACNAIPGAPRCQCPAGAALQADGRSCTASATQSCNDLCEHFCVPNP 300 MLGVLVLGALALAGLGFPAPAEPQPGGSQCVEHDCFALYPGPATFLNASQICDGLRGHLM Length 475; COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTIN Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/587,389
FILING DATE: 17-JAN-1996
CLASSIFICATION: 435 Score 2686; DB 1; Pred. No. 1.3e-182; 0; Mismatches 1; PRIOR APPLICATION DATA:
PRIOR APPLICATION NUMBER: US 08/307,444
FILING DATE: 19-SEP-1994
ATTORNEY/AGENT INFORMATION:
NAME: OLIFF, JAMES REGISTRATION NUMBER: 27,075
REFERENCE/DOCKET NUMBER: JAO 27706
TELECOMMUNICATION INFORMATION: Sequence 1, Application US/08587389 Patent No. 5695964 GENERAL INFORMATION: Query Match 92.1%; Best Local Similarity 99.8%; Matches 474; Conservative (TELEPHONE: (703) 836-6400 TELEFAX: (703) 836-2787 TELEX: 90-1799 PTO ALEX INFORMATION FOR SEQ ID NO: 1: LENGTH: 475 amino acids TYPE: amino acid SEQUENCE CHARACTERISTICS: STRANDEDNESS: single protein linear TOPULCE: PE ; ANTI-SENSE: NO US-08-587-389-1 USA HYPOTHETICAL: TOPOLOGY: CITY: ALE STATE: VA COUNTRY: RESULT 15 US-08-587-389-1 301 301

09	120	120	180	180	240	240	300	300	360	360	420	420		
	TVRSSVAADVISLLLNGDGGVGRRREWIGLQLPPGCGDPKRLGPLRGFQWVTGDNNTSYS		RWARLDLNGAPLCGPLCVAVSAAEATVPSEPIWEEQQCEVKADGFLCEFHFPATCRPLAV	- 14	EPGAAAAAVSITYGTPFAARGADFQALPVGSSAAVAPLGLQLMCTAPPGAVQGHWAREAP	- 144	1 GAWDCSVENGGCEHACNAIPGAPRCQCPAGAALQADGRSCTASATQSCNDLCEHFCVPNP	- 0		1 DQPGSYSCMCETGYRLAADQHRCEDVDDCILEPSPCPQRCVNTQGGFECHCTPNYDLVDG	1 ECVEPVDPCFRANCEYQCQPLNQTSYLCVCAEGFAPIPHEPHRCQMFCNQTACPADCDPN		1 TQASCECPEGYILDDGFICTDIDECENGGFCSGVCHNLPGTFECICGPDSALARH 475	
-	61	61	121	121	181	181	241	241	301	301	361	361	421	421
qa	Qy	qq	Qy	qq	Qy	οqα	Qy	qa	٥y	ΩĐ	Οy	Ωb	Qy	QQ

Search completed: December 16, 2002, 17:27:18 Job time : 15.5 secs

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GenCore version 5.1.3
Copyright (c) 1993 - 2002 Compugen Ltd.
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OM protein - protein search, using sw model

December 16, 2002, 17:26:23 ; Search time 8.5 Seconds (without alignments) 1011.502 Million cell updates/sec Run on:

US-09-509-994-2 2916 1 MLGVLVLGALALAGLGFPAP......PSPTPGSTLTPPAVGLVHSG 516 Title: Perfect score: Sequence:

Scoring table:

105981 seqs, 16662342 residues BLOSUM62 Gapop 10.0 , Gapext 0.5 Searched:

105981 Total number of hits satisfying chosen parameters:

Minimum DB seq length: 0 Maximum DB seq length: 200000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

Database

Published_Applications_AA:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Description	Sequence 2, Appli	Sequence 96, Appl	Sequence 62, Appl	Sequence 73, Appl	Sequence 8, Appli	Sequence 10, Appl	Sequence 200, App	Sequence 34, Appl	Sequence 34, Appl	Sequence 34, Appl	Sequence 2, Appli		Sequence 16, Appl	800	Sequence 272, App	14,	Sequence 6, Appli	Sequence 3, Appli	Sequence 12, Appl
ΩI	US-09-938-405-2	US-09-789-919-96	US-09-789-919-62	US-09-789-919-73	US-10-000-512-8	US-10-000-512-10	US-09-764-898-200	US-09-905-291A-34	US-09-909-320-34	US-09-909-088B-34	US-09-747-371-2	US-09-898-570-14	US-09-898-570-16	US-09-764-853-800	US-09-764-898-272	US-09-804-156-14	US-09-946-633-6	US-09-747-371-3	US-09-898-570-12
DB	101	70	10	10	σ	6	10	6	10	10	10	10	10	10	10	10	10	10	10
% Query Match Length DB	575	652	644	644	776	959	877	915	915	915	666	974	1009	800	800	534	534	664	845
% Query Match	99.9	20.1	18.8	18.8	12.1	12.1	12.1	12.0	12.0	12.0	11.4	11.2	11.2	11.1	11.1	11.1	11.1	10.8	10.8
Score		585	547	547	353	353	352.5	348.5	348.5	348.5	332	327.5	327.5	325	325	323	323	314	313.5
Result No.	-	7	က	4	S	9	7	œ	6	10	11	13	13	14	15	16	17	18	19

Sequence 691, App Sequence 2, Appli	Sequence 2, Appli	Sequence 2, Appl1	Sequence 1, Appli	Sequence 15, Appl	8	Sequence 52, Appl	Sequence 10, Appl	Sequence 5, Appli	ó	'n	2,	Sequence 3, Appli	ď,	-	15,		Sequence 315, App	52, A	Sequence 37, Appl	11,	Seguence 226, App	8	Sequence 12, Appl	Sequence 85, Appl
10 US-09-925-302-691 9 US-10-041-016-2	10 US-09-083-002-2	10 US-09-275-805-2	10 US-09-836-561-1	9 US-10-066-500-15	12 US-10-052-586-408	9 US-09-974-298-52	10 US-09-898-570-10	10 US-09-836-561-5	10 US-09-275-805-9			10 US-09-855-722-3							10 US-09-976-165-37		10 US-09-764-898-226	10 US-09-944-849-8	10 US-09-908-322-12	10 US-09-919-497-85
433	448	448	448	448	448	493	735	387	368	2444	1055	1212	1238	1238	509	509	509	509	816	988	362	1404	722	1246
10.7	10.6	10.6	10.6	10.4	10.4	6.6							9.5	9.5	9.1	9.1	9.1	9.1	9.8	8.2	8.1	8.0	8.0	7.9
311 308	308	308	308	302	302	289.5	284	279.5	278	272	269	268	268	268	266.5	266.5	266.5	266.5	251.5	240	237.5	234.5	234	230.5
20 21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45

ALIGNMENTS

RESULT US-09-6 1 Seque 2 General 3 APPI 3 TILL 4 PRIC 5 CUR 6 CUR 7 PRIC	RESULT 1 US-09-938-405-2 Sequence 2, Applicati Sequence 1, OSCO20111 GENERAL INFORMATION: APPLICANT: Festoff, APPLICANT: FOSTOFf, TITLE OF INVENTION: FILE REFERENCE: 5196 CURRENT APPLICATION FILE REFERENCE: 5196 CURRENT FILING DATE: PRIOR FILING DATE: NUMBER OF SEQ ID NOS SOFTWARE: PATENTIN SEG ID NOS SOFTWARE: PATENTIN SEG ID NOS SOFTWARE: PATENTIN SEG ID NOS SEG ID NOS TYPE: PRT TY	SULT 1 -09-938-405-2 Sequence 2, Application US/09938405 Betent No. US20020111296A1 Sequence 1, Application US/09938405 Sequence 2, Application US/09938405 Sequence 2, Application US/090111296A1 APPLICANT: Festoff, Barry W. APPLICANT: Morent Moren	Inju
Mag	Query Match Best Local Sim Matches 515;	Query Match 99.9%; Score 2912; DB 10; Length 575; Best Local Similarity 99.8%; Pred. No. 1.3e-174; Matches 515; Conservative 0; Mismatches 1; Indels 0; Gaps 0;	
Qy	1 MLG	MLGVLVLGALALAGLGFPAPAEPQPGGSQCVEHDCFALYPGPATFLNASQICDGLRGHLM 60	
qq	1 MLC	MLGVIVLGALALAGIGFPAPAEPQPGGSQCVEHDCFALYPGPATFLNASQICDGLRGHLM 60	
Qy	61 TVF	TÜNSSVAADVISLLINGDGGVGRRRIMIGLQLPPGCGDPKRLGPLRGFQWVTGDNNTSYS 120	
qq	61 TVF	TVRSSVAADVISLLLNGDGGVGRRRLWIGLQLPPGCGDPKRLGPLRGFQWVTGDNNTSYS 120	
Qy	121 RW	KWARLDLNGAPLCGPLCVAVSAAEATVPSEPIWEEQQCEVKADGFLCEFHFPATCRPLAV 180	
qa	121 RW		
Qy	181 EPC	EPGAAAAAVSITYGTPFAARGADFQALPVGSSAAVAPLGLQLMCTAPPGAVQGHWAREAP 240	
qq	181 EPC	EPGAAAAAVSITYGTPFAARGADFQALPVGSSAAVAPLGLQLMCTAPPGAVQGHWAREAP 240	
Qy	241 GAV	GAWDCSVENGGCEHACNAIPGAPRCQCPAGAALQADGRSCTASATQSCNDLCEHFCVPNP 300	

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32;
420
                                                                                                                                                                                                                                                                                                                      APPLICANT: Lemischka, Ihor
APPLICANT: Lemischka, Ihor
APPLICANT: Moore, Kateri
TITLE OF INVENTION: GELES THAT REGULATE HEMATOPIETIC BLOOD FORMING STEM
TITLE OF INVENTION: CELLS AND USES THEREOF
TITLE OF INVENTION: UNBER: US/09/789,919
CURRENT APPLICATION NUMBER: US/09/789,919
NUMBER OF SEQ ID NOS: 96
                                    DQPGSYSCMCETGYRLAADQHRCEDVDDCILEPSPCPQRCVNTQGGFECHCYPNYDLVDG 360
                                                 TQASCECPEGYILDDGFICTDIDECENGGFCSGVCHNLPGTFECICGPDSALARHIGTDC 480
                                                                                                                                                     60 MTVRSSVAAD----VISLLLINGDGGVGRR--RLWIGLQLPPG-CGDPKRLGPLRGFQWVT 112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GDNNTSYSRWARLDLNGAPLCGPLCVA--VSAAEATVPSE-PIWEEQQC-----EVKAD 163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GFLCEFHFPATCRPLAV-EPGAAAAVSITYGTPFAARGADFQALPVGSSAAVAPLGLQL 222
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RCQCPAGAALQADGRSCTASATQSCNDLCE--HFCVPNPDQPGSYSCMCETGYRLAADQH 321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RCEDVDDCILEPSPCPQRCVNTQGGFECHCYPNYDLVDGECVEPVDPCFRANCEYQCQPL 381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               382 NQTSYLCVCAEGFAPIPHEPHRCQMFCNQTACPADCDPNTQAS--CECPEGYIL--DDGF 437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2 LGVLVLGALALA--GLGFPAPAEPQPGGSQCVEHDCFALYPGPATFLNASQICDGLRGHL 59
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ECVEPVDPCFRANCEYQCQPLNQTSYLCVCAEGFAPIPHEPHRCQMFCNQTACPADCDPN
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31.8%; Pred. No. 1.3e-29;
ilve 56; Mismatches 209;
                                                                                                                                                                                           DSGKVDGGDSGSGEPPPSPTPGSTLTPPAVGLVHSG 516
                                                                                                                                                                                                          Sequence 96, Application US/09789919
Patent No. US20020064855A1
GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ORGANISM: Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
Matches 181; Conserv
                                                                                                                                                                                                                                                         RESULT 2
US-09-789-919-96
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                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQ ID NO 96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: PRT
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APPLICANT: Lemischka, Ihor
APPLICANT: Moore, Kateri
TITLE OF INVENTION: GENES THAT REGULATE HEMATOPIETIC BLOOD FORMING STEM
TITLE OF INVENTION: CELLS AND USES THEREOF
FILE REFERENCE: 2275-1-005
CURRENT APPLICATION NUMBER: US/09/789,919
CURRENT FILING DATE: 2011-02-21
NUMBER OF SEQ ID NOS: 96
SOFTWARE: PATENTIN Ver. 2.0
 486
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SVAA----DVISLLLINGDGGVGRR--RLWIGLQLPPGCGDPKRLGPLRGFQWVTGDNNTS 118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          65 EEEARHVQQALTQLLKTKAPLEAKMGKFWIGLQREKGNCTYHDL-PMRGFSWVGGGEDTA 123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   119 YSRWARLDINGAPICGPICVAVSAAEATVPSE-PIWEEQQCEV-----KADGFLCEFHF 171
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9 LLLGLLGQPWAG--AAADSQ--AVVCEGTACYTAHWGKLSAAEAQHRCNENGGNLATVKS 64
                                                               438 ICTDIDEC--ENGGFCSGVCHNLPGTFECICGPDSALARHIGTDCDSGKV-----D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       172 PATCRPLAV-EPGAAAAVSITYGTPFAARGADFQALPVGSSAAVAPLGLQ-----LM
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            237 CNEKTPGIF--HWGSSGPLCVSPKFGCSFNNGGCQQDCFEGGDGSFRCGCRPGFRLLDDL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            278 RSCTASATQSCNDLCEHFCVPNPDQPG-----SYSCMCETGYRLAADQHRCEDVD
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Best Local Similarity 30.2%; Pred. No. 2.9e-27;
Matches 168; Conservative 55; Mismatches 210;
                                                                                                           GGDSGSGE-----PPPSPTPGSTLTPPA 509
                                                                                                                                          EEDKGEKEGSTVPRAATASPTRGPEGTPKA 512
                                                                                                                                                                                                                      Sequence 62, Application US/09789919
Patent No. US20020064855A1
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; ORGANISM: Mus musculus US-09-789-919-62
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DE-----CALGRSP-
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US-09-789-919-62
                                                                                                                                                                                                                                                                                                                                                                                                                 SEQ ID NO 62
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                                                                           Sequence 73, Application US/0978919;
Sequence 73, Application US/0978919;
Patent No. US20020064855A1
GENERAL INFORMATION:
APPLICANT: Lemischka, Ihor
APPLICANT: Lemischka, Ihor
TITLE OF INVENTION: GENES THAT REGULATE HEMATOPIETIC BLOOD FORMING STEM
TITLE OF INVENTION: CELLS AND USES THEREOF;
FILLE REPERENCE: 2275-1-06;
CURRENT APPLICATION NUMBER: US/09/789,919
CURRENT PILING DATE: 2001-02-21
NUMBER OF SEQ ID NOS: 96
SEQ ID NO 73
LENGTH: 644
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              328 DCILEPSPCPQRCVNTQGGFECHCYPNYDLVDG----ECVEPVDPCFRANCEYQCQPLNQT 384
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  224 CT-APPGAVQGHWAREAP----GAWDCSVENGGCEHAC-NAIPGAPRCQCPAGAALQADG 277
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        119 YSRWARLDLNGAPLCGPLCVAVSAAEATVPSE-PIWEEQQCEV-----KADGFLCEFHF 171
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                                                                                                                                                                                                                                                                                                                                                           18.8%; Score 547; DB 10; Length 644;
30.2%; Pred. No. 2.9e-27;
tive 55; Mismatches 210; Indels 124;
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US-10-000-512-8
; Sequence 8, Application US/10000512
; Patent No. US20020164699A1
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Matches 168; Conservative
                                                                                                                                                                                                                                                                                                    TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 10, Application US/10000512;
Sequence 10, Application US/10000512;
Patent No. US/20020164699Al
GENERAL INFORMATION:
APPLICANT: Shimkets, Richard A
APPLICANT: Fernandes, Elma
TITLE OF INVENTION: POLYPETIDES AND POLYNUCLEOTIDES ENCODING SAME
TITLE OF INVENTION: POLYPETIDES AND POLYNUCLEOTIDES ENCODING SAME
TITLE OF INVENTION: POLYPETIDES AND POLYNUCLEOTIDES ENCODING SAME
TITLE OF INTERNATE 12966-556
CURRENT FILING DATE: 2001-0.23
PRIOR APPLICATION NUMBER: 09/619,252
PRIOR FILING DATE: 1999-11-29
PRIOR FILING DATE: 1999-11-29
NUMBER OF SEQ ID NOS: 36
SOFTWARE: Patentin Ver. 2.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      409 NQTACPADCDPNTQAS--CECPEGYILDDGF-ICTDIDEC---ENGGFCSGVCHNLPGTF 462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GSYSCMCETGYRLAADQHRCEDVDDCILEPSPCPQRCVNTQGGFECHCYPNYDL-VDGEC 362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     340 GSYLCQCHEGFALNPDEKTCTKIDYCASSNHGCQYECVNTDDSYSCHCLKGFTLNPDKKT 399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            363 VEPVDPCF--RANCEYQCQPLNQTSYLCVCAEGFAPIPH-------EPHRCQMFC 408
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GENERAL INFORMATION:
APPLICANT: Shimkets, Richard A
APPLICANT: Shimkets, Elma
TITLE OF INVENTION: POLYPEPTIDES AND POLYNUCLEOTIDES ENCODING SAME
TITLE OF INVENTION: POLYPEPTIDES AND POLYNUCLEOTIDES ENCODING SAME
FILE REFERENCE: 15966-556
CURRENT APPLICATION NUMBER: US/10/000,512
CURRENT APPLICATION NUMBER: 09/619,25
PRIOR PILING DATE: 2000-07-19
PRIOR FILING DATE: 2000-07-19
PRIOR FILING DATE: 1999-11-29
NUMBER OF SEQ ID NOS: 36
SOFTWARE: PATCHIN VOT: 2.1
SEQ ID NO 8
LENGTH: 776
TYPE: PRT
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Best Local Similarity 31.2%; Pred. No. 5.2e-15;
Matches 85; Conservative 41; Mismatches 102; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 776;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ouery Match 12.1%; Score 353; DB 9; Length 776 Best Local Similarity 31.2%; Pred. No. 4.3e-15; Matches 85; Conservative 41; Mismatches 102; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      463 ECICGPDSALARHIGTDCDSGKVDG---GDSG 491
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US-10-000-512-8
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LENGTH: 959
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IITLE OF INVENTION: Secreted and Transmembrane Polypeptides and Nucleic IIILE OF INVENTION: Acids Encoding the Same
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE REPERENCE: 10466-14

CURRENT APPLICATION NUMBER: US/09/905,291A

CURRENT FILING DATE: 2001-07-12

PRIOR APPLICATION NUMBER: US 60/145,698

PRIOR FILING DATE: 1999-07-07

PRIOR FILING DATE: 1999-07-07

PRIOR FILING DATE: 1999-07-08

PRIOR FILING DATE: 1999-07-26

PRIOR FILING DATE: 1999-07-26

PRIOR FILING DATE: 1999-07-28

PRIOR FILING DATE: 1999-07-28

PRIOR PRIOR PRIOR DATE: 1999-07-28

PRIOR FILING DATE: 1999-07-28

PRIOR FILING DATE: 1999-09-18

PRIOR FILING DATE: 1999-09-13

PRIOR FILING DATE: 1999-09-13

PRIOR FILING DATE: 1999-09-13

PRIOR FILING DATE: 1999-09-15

PRIOR PRIOR DATE: 1999-10-05

PRIOR PRIOR DATE: 1999-10-05

PRIOR PRIOR DATE: 1999-10-05

PRIOR PRIOR DATE: 1999-11-29

PRIOR PRIOR DATE: 1999-11-29

PRIOR PRIING DATE: 1999-11-20

PRIOR PRIING DATE: 1999-11-30

PRIOR PRIING DATE: 1999-11-30

PRIOR PRIING DATE: 1999-11-30

PRIOR PRIING DATE: 1999-11-30

PRIOR PRIING DATE: 1999-12-02

PRIOR PRING DATE: 1999-12-02

PRIOR PRING DATE: 1999-12-02

PRIOR PRING DATE: 1999-12-02
                                                                                                                                          Gerritsen, Mary E.
Goddard, A.
Godowski, Paul J.
Grimaldi, Christopher J.
                                                                                                                                                                                                                                                   Gurney, Austin L.
Hillan, Kenneth, J.
Kljavin, Ivar J.
Mather, Jennie P.
Pan, James
Pan, Janes
                                                                                                                                                                                                                                                                                                                                                                                                                        Roy, Margaret Ann
Stewart, Timothy A.
Tumas, Daniel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Williams, P. Mickey Wood, William, I.
  Ferrara, Napoleone
Filvaroff, Ellen
                                                                                                                Gerber, Hanspeter
                                                                                   Gao, Wei-Qiang
                                                         Fong, Sherman
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US-09-905-291A-34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT:
APPLICANT:
APPLICANT:
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                                                                                         ----EPHRCQMFCNQTACPADCDPNTQAS--CECPEGYILDD-GFICTDIDECENGGFCS 452
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                                                    304 GSYSCMCETGYRLAADQHRCEDVDDCILEPSPCPQRCVNTQGGFECHCYPNYDL-VDGEC 362
                                                                                                                                                                  363 VEPVDPCF--RANCEYQCQPLNQTSYLCVCAEGFAPIPH-------EPHRCQMFC 408
                                                                                                                                                                                                                         400 CRRINYCALNKPGCEHECVNMEE-SYYCRCHRGYTLDPNGKPCSRVDHCAQQDHGCEQLC 458
                                                                                                                                                                                                                                                                                409 NQTACPADCDPNTQAS--CECPEGYILDDGF-ICTDIDEC---ENGGFCSGVCHNLPGTF 462
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match 12.1%; Score 352.5; DB 10; Length 877; Best Local Similarity 32.8%; Pred. No. 5.1e-15; Matches 88; Conservative 33; Mismatches 92; Indels 55;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GENERAL INFORMATION:
APPLICANT: Rosen et al.
TITLE OF INFORMATION:
CURRENT APPLICATION NUCLEIC Acids, Proteins, and Antibodies
FILE REFERENCE: P2201
CURRENT FILING DATE: 2001-01-17
Prior application data removed - consult PALM or file wrapper
NUMBER OF SEQ ID NOS: 311
SOFTWARE: PatentIn Ver. 2.0
LENGTH: 877
                                                                                                                                                                                                                                                                                                                                                                                                                                            ACQC-PEGHVLRSDGKTC--AKLDSCALGDHG 535
                                                                                                                                                                                                                                                                                                                                                                                           463 ECICGPDSALARHIGTDCDSGKVDG---GDSG 491
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 200, Application US/09764898
Patent No. US20020090673A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 34, Application US/09905291A Patent No. US20020160374A1
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APPLICANT: Genentech, Inc.
APPLICANT: Ashkenazi, Avi
APPLICANT: Botstein, David
APPLICANT: Desnoyers, Luc
APPLICANT: Eaton, Dan L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ; ORGANISM: Homo sapiens
US-09-764-898-200
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14; Gaps 245 CSVENGGCEHACNAIPGAPRCQCPAGAALQADGRSCTA-SATQSCNDLCEHFCVPNPDQP 303 19; Length 915; Indels Query Match 12.0%; Score 348.5; DB 9; Best Local Similarity 34.3%; Pred. No. 9.5e-15; Matches 85; Conservative 36; Mismatches 108;

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APPLICANN: FORTHER AMPLICANE
APPLICANN: Good, Wel-John Gerritsen, Mary E.
APPLICANN: Goodsek, Paul J.
APPLICANN: Goodsek, Paul J.
APPLICANN: Gulled, Wel-John D.
APPLICANN: Miland, Indee, John D.
APPLICANN: Miland, Indee, John D.
APPLICANN: Melgaret Ann
APPLICANN: Roonly Miland, Indee, John D.
APPLICANN: Roonly Margaret Ann
APPLICANN: Roonly Margaret Ann
APPLICANN: Melgaret Ann
APPLICANN: Model William, I.
APPLICANN: MODER: 10466-14
CURRENT APPLICATION NUMBER: DECT/USO9/090320
CURRENT PLING DATE: 2002-01-04
PRIOR PELING DATE: 1000-02-22/USO9/0414
PRIOR PELING DATE: 1000-02-22
PRIOR APPLICANTON NUMBER: DET/USO9/2054
PRIOR PELING DATE: 11999-01-28
PRIOR PELING DATE: 11999-01-28
PRIOR PELING DATE: 11999-01-28
PRIOR PELICANTON NUMBER: PET/USO9/2084
PRIOR PELING DATE: 11999-01-18
PRIOR PELING NUMBER: PET/USO9/2084
PRIOR PELING DATE: 11999-01-18
PRIOR PELING NUMBER: PET/USO9/2084
PRIOR PELING NUMBER: PET/USO9/2084
PRIOR PELING DATE: 11999-01-18
PRIOR PELING NUMBER: PET/USO9/2084
PRIOR PELING DATE: 11999-01-18
PRIOR PELING NUMBER: PET/USO9/2084
                                                                                                                                                                                                                                   DC-DPNTQASCECPEGYIL-DDGPICTDIDECENGGF-CSGVCHNLPGTFECIGGDDSAL 472
                                                                                                                                                                                                                                                                        457 SCVNMDRSFACQCPEGHVLRSDGKTCAKLDSCALGDHGCEHSCVSSEDSFVCQCF-EGYI 515
                                                                                                                                                400 CSRVDHCAQQDHGCEQLC--LNTEDSFVCQCSEGFL-INEDLKTCSRVDYCLLSDHGCEY 456
GSYSCMCETGYRLAADQHRCEDVDDCILEPSPCPQRCVNTQGGFECHCYPNYDL-VDGEC 362
                                              363 VEPVDPCFRAN--CEYQCQPLN-QTSYLCVCAEGFAPIPHEPHRCQM--FC--NQTACPA 415
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 34, Application US/09909320
Patent No. US/20020132240A1
GENERAL INFORMATION:
APPLICANT: Genentech, Inc.
APPLICANT: Ashkenazi, Avi
APPLICANT: Destotein, David
APPLICANT: Desnoyers, Luc
APPLICANT: Eaton, Dan L.
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Filvaroff, Ellen
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US-09-909-320-34
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363 VEPVDPCFRAN--CEYQCQPLN-QTSYLCVCAEGFAPIPHEPHRCQM--FC--NQTACPA 415
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                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 915;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match 12.0%; Score 348.5; DB 1
Best Local Similarity 34.3%; Pred. No. 9.5e-15;
Matches 85; Conservative 36; Mismatches 108
PRIOR APPLICATION NUMBER: PCT/US99/28313
PRIOR FILING DATE: 1999-11-30
PRIOR PLILNG DATE: 1999-12-30
PRIOR PLILNG DATE: 1999-12-02
PRIOR PLILNG DATE: 1999-12-02
PRIOR PLILNG DATE: 1999-12-02
PRIOR PLILNG DATE: 1999-12-02
PRIOR PLILNG DATE: 1999-12-16
PRIOR PELICATION NUMBER: PCT/US99/30095
PRIOR PELING DATE: 1999-12-16
PRIOR PELING DATE: 1999-12-20
PRIOR PELING DATE: 1999-12-20
PRIOR APPLICATION NUMBER: PCT/US99/30999
PRIOR PLILNG DATE: 1999-12-20
PRIOR APPLICATION NUMBER: PCT/US09/30999
PRIOR PILING DATE: 1999-12-20
PRIOR APPLICATION NUMBER: PCT/US09/00219
PRIOR PILING DATE: 2000-01-05
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US-09-909-088B-34
; Sequence 34, Application US/09909088B
; Patent No. US20020146709A1
; GENERAL INFORMATION:
; APPLICANT: Genentech, Inc.
; APPLICANT: Botstein, David
appLICANT: Botstein, David
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Garber, Hanspeter
Gerritsen, Mary E.
Goddard, A.
Godowski, Paul J.
Grimaldi, Christopher J.
Grimaldi, Christopher J.
Grimaldi, Christopher J.
Kiljavin, Ivar J.
Kiljavin, Ivar J.
Kiljavin, Ivar J.
Racher, James
Pan, James
Pan, James
Roy, Margaret Ann
Stewart, Timothy A.
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Eaton, Dan L.
Ferrara, Napoleone
Filvaroff, Ellen
Fong, Sherman
                                                                                                                                                                                                                                                                                                                               ; SEQ ID NO 34
; LENGTH: 915
: TYPE: PRT
; ORGANIEM: Homo sapiens
US-09-909-320-34
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APPLICANT:
APPLICANT:
APPLICANT:
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APPLICANT:
APPLICANT:
APPLICANT:
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Sequence 14, Application US/09898570
Patent No. US20020123612A1
GENERAL INFORMATION:
APPLICANT: GERLACH, VALERIE L.
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                                                     Sequence 2, Application US/09747371
Patent No. US20020006616A1
                                                                                                                                                                                                                                                                                                                                                                          NUMBER OF SEQ ID NOS: 4 SOFTWARE: Patentin version 3.0
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                                                                                                          GENERAL INFORMATION:
APPLICANT: Gish, Kurt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 12
US-09-898-570-14
                      US-09-747-371-2
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                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQ ID NO 2
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                           PAPLICANTON NUMBER: DC7/US99/309, 0888

FILLS REFERENCE: 10466-14

CURRENT PILLING DATE: 2010-07-18

PRIOR APPLICATION NUMBER: US/09/909, 0888

CURRENT PILLING DATE: 2010-07-18

PRIOR APPLICATION NUMBER: US/09/00414

PRIOR APPLICATION NUMBER: US/09/00414

PRIOR PILLING DATE: 1999-07-07

PRIOR PILLING DATE: 1999-07-07

PRIOR PILLING DATE: 1999-07-06

PRIOR PILLING DATE: 1999-07-08

PRIOR PILLING DATE: 1999-09-13

PRIOR PILLING DATE: 1999-09-13

PRIOR PILLING DATE: 1999-09-13

PRIOR PARTICATION NUMBER: PCT/US99/23089

PRIOR PARTICATION NUMBER: PCT/US99/23089

PRIOR PAPLICATION NUMBER: PCT/US99/23089

PRIOR PAPLICATION NUMBER: PCT/US99/23019

PRIOR PAPLICATION NUMBER: PCT/US99/23019

PRIOR PAPLICATION NUMBER: PCT/US99/23019

PRIOR PAPLICATION NUMBER: PCT/US99/23019

PRIOR PLILING DATE: 1999-11-20

PRIOR PRILING DATE: 1999-11-20

PRIOR PRIPER: POT NUMBER: PCT/US09/30099

PRIOR PRIPER: POT NUMBER: PCT/US09/30099

PRIOR PRILING DATE: 1999-11-20

PRIOR PRIPER: POT NUMBER: PCT/US09/30099

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PRIOR PRIPER: PO
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GSYSCMCETGYRLAADQHRCEDVDDCILEPSPCPQRCVNTQGGFECHCYPNYDL-VDGEC 362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 363 VEPVDPCFRAN--CEYQCQPLN-QTSYLCVCAEGFAPIPHEPHRCQM--FC--NQTACPA 415
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         245 CSVENGGCEHACNAIPGAPRCQCPAGAALQADGRSCTA-SATQSCNDLCEHFCVPNPDQP 303
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            12.0%; Score 348.5; DB 10;
llarity 34.3%; Pred. No. 9.5e-15;
Conservative 36; Mismatches 108;
Williams, P. Mickey
Wood, William, I.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Homo sapiens
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85; Conserv
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US-09-909-088B-34
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Best Local S
Matches 85
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APPLICANT: Mack, David

TITLE OF INVENTION: No. US20020006616Alel Methods of Diagnosing Breast Cancer, Com

TITLE OF INVENTION: Screening for Breast Cancer Modulators

FILE REFERENCE: A-69028/DJB/JJD

CURRENT A-69028/DJB/JJD

CURRENT FILING DATE: 2000-12-21

PRIOR PELLOATION NUMBER: PCT/ US/00/06952
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APPLICANT: ELLERYAN, KAREN
APPLICANT: MACDOUGALL, JOHN R.
APPLICANT: MACDOUGALL, JOHN R.
APPLICANT: SMITHSON, GLENNDA
TITLE OF INVENTION: NOVEL HUMAN PROTEINS, POLYNUCLEOTIDES ENCODING THEM AND
TITLE OF INVENTION: NOVEL HUMAN PROTEINS, POLYNUCLEOTIDES ENCODING THEM AND
TITLE OF INVENTION: NOVEL HUMAN PROTEINS, POLYNUCLEOTIDES ENCODING THEM AND
TITLE OF INVENTION: METHODS OF USING THE SAME
GURRENT APPLICATION NUMBER: US/09/898,570
PRIOR APPLICATION UNMER: 60/198,293
PRIOR FILING DATE: 2000-01-19
PRIOR PELING DATE: 2000-01-19
PRIOR PELING DATE: 2000-01-19
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              182 PGAAAAVSITYGTPFAARGADFQALPVGSSAAVAPLGLQLMCTAPPGAVQGHWARE--- 238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          394
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 239 --APGAWDCSVENGGCEHA---CNAIPGAPRCQCPAGAALQADGRSCTASATQSCNDL-- 291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         292 -CEHFCVPNPDQPGSYSCMCETGYRLAADQHRCEDVDDCILEPSPCPQRCVNTQGGFECH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -----CPADC-DPNTQASCECPEGYILD-DGFICTDIDECE--NGG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           31; Mismatches 117; Indels 128;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 999;
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Best Local Similarity 26.8%; Pred. No. 1.1e-13;
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CURRENT APPLICATION NUMBER: US/09/898,570
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US-09-764-853-800
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CYPNYDLVDGE--CVEPVDP---CFRAN--CEYQCQPLNQTSYLCVCAEGFAPIPHEPHR 403
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  197 CKLICNYGNGGCQHICDDIEQGPRCGCHIKFVLHIDGKICIGERRLEQHIPTQAVSNEIC 256
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       77;
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Best Local Similarity 26.7%; Pred. No. 2.1e-13;
Matches 81; Conservative 32; Mismatches 113; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CTHER INFORMATION: Description of Unknown Organism: POLYX; OTHER INFORMATION: 297832_B_1
US-09-898-570-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 16, Application US/09898570
Patent No. US20020123612A1
GENERAL INPORMATION:
APPLICANT: GERLERAN, VALERIE L.
APPLICANT: ELLERMAN, KAREN
APPLICANT: SMITHSON, GLENDA
TITLE OF INVENTION: NOVEL HUMAN PROTEINS, POI
TITLE OF INVENTION: METHODS OF USING THE SAN
FILE REFERENCE: 15966-776CIP
PRIOR FILING DATE: 2000-04-20
PRIOR APPLICATION NUMBER: 60/210,809
PRIOR FILING DATE: 2000-06-09
PRIOR FILING DATE: 2000-04-26
PRIOR PRILING DATE: 2000-04-26
PRIOR FILING DATE: 2000-04-26
PRIOR FILING DATE: 2000-07-17
PRIOR FILING DATE: 2001-02-27
PRIOR FILING DATE: 2001-02-17
PRIOR FILING DATE: 2001-04-19
NUMBER OF SEO ID NOS: 58
NUMBER OF SEO ID NOS: 58
LENGTH: 974
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ORGANISM: Unknown Organism
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US-09-898-570-16
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257 AVNNGGCDSKCHDAATGVHCTCPVGFMLQPDRKTCKDIDECRLNNGGCDHICRNTVGSFE 316
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CYPNYDLVDGE--CVEPVDP---CFRAN--CEYQCQPLNQTSYLCVCAEGFAPIPHEPHR 403
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Patent No. US20020090672A1
GENERAL INFORMATION:
APPLICAMT: Rosen et al.
TITLE OF INVENTION: Nucleic Acids, Proteins, and Antibodies
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match 11.2%; Score 327.5; DB 10; Length Best Local Similarity 26.7%; Pred. No. 2.1e-13; Matches 81; Conservative 32; Mismatches 113; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTHER INFORMATION: Description of Unknown Organism: POLYX; OTHER INFORMATION: CG55096-04
US-09-898-570-16
PRIOR APPLICATION NUMBER: 00/198,293
PRIOR APPLICATION NUMBER: 60/198,293
PRIOR FILING DATE: 2000-04-19
PRIOR FILING DATE: 2000-04-20
PRIOR FILING DATE: 2000-04-20
PRIOR FILING DATE: 2000-06-09
PRIOR FILING DATE: 2000-06-09
PRIOR FILING DATE: 2000-04-26
PRIOR FILING DATE: 2000-04-26
PRIOR FILING DATE: 2000-04-26
PRIOR FILING DATE: 2000-04-26
PRIOR PRILING DATE: 2000-04-26
PRIOR PRILING DATE: 2000-04-26
PRIOR PRILING DATE: 2000-04-26
PRIOR PELING DATE: 2000-07-17
PRIOR PELING DATE: 2000-07-17
PRIOR FILING DATE: 2000-07-17
PRIOR FILING DATE: 2000-07-17
PRIOR PRILING DATE: 2000-07-17
PRIOR PRILING DATE: 2000-07-17
PRIOR PRILING DATE: 2000-07-17
PRIOR PRILING DATE: 2001-02-27
PRIOR PRILING DATE: 2001-02-27
PRIOR PRILING DATE: 2001-04-19
NUMBER OF SEQ ID NOS: 58
SOFTWARE: PALENTIN VERSE: PALOR FILING DATE: 2001-04-19
SEQ ID NO 16
LENGTH: 1009
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12;

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18;
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NAME/KEY: SITE
LOCATION: (197)
OTHER INFORMATION: Xaa equals any of the naturally occurring L-amino acids
LOCATION: (201)
OTHER INFORMATION: Xaa equals any of the naturally occurring L-amino acids
NAME/KEY: SITE
LOCATION: (201)
OTHER INFORMATION: Xaa equals any of the naturally occurring L-amino acids
LOCATION: (687)
OTHER INFORMATION: Xaa equals any of the naturally occurring L-amino acids
US-09-764-853-800
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OTHER INFORMATION: Xaa equals any of the naturally occurring L-amino acids
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Patent No. US20020090673A1

GENERAL INFORMATION:

APPLICANT: Rosen et al.

TILE OF INVENTION: Nucleic Acids, Proteins, and Antibodies
FILE REFERENCE: PJZ01

CURRENT APPLICATION NUMBER: US/09/764,898

CURRENT APPLICATION NUMBER: US/09/764,898

CURRENT APPLICATION ADDIE: 2001-01-17

Prior application data removed - consult PALM or file wrapper

SOFTUME: Patentin Ver. 2.0

SEQ ID NO 272

LENGTH: 800
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FILE REFERENCE: PJZ06
CURRENT APPLICATION NUMBER: US/09/764,853
CURRENT FILING DATE: 2001-01-17
Prior application data removed - consult PALM or file wrapper NUMBER OF SEQ ID NOS: 939
SOFTWARE: Patentin Ver. 2.0
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36; Mismatches 88;
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ORGANISM: Homo sapiens
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; OTHER INFORMATION: Xaa equals any of the naturally occurring L-amino acids US-09-764-898-272
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                                                      / Match 11.1%; Score 325; DB 10; Local Similarity 31.6%; Pred. No. 2.4e-13; les 86; Conservative 36; Mismatches 88;
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